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PRACTICAL ESSAYS

ON

MEDICAL EDUCATION,

AND THE

MEDICAL PROFESSION,

IN THE

United States.

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TO THE
STUDENTS COMPOSING THE TWELFTH CLASS
OF THE
MEDICAL COLLEGE OF OHIO:

YOUNG GENTLEMEN,

IN dedicating to you this little volume, permit me to bear public testimony to your industry, sound morals, and dignified deportment, since we came into the endearing relation of pupils and professor. In the hope, that what I have written, may contribute to preserve yourselves, and your future students, from some of the errors and defects of my own professional education,

I remain, affectionately,

Your friend,

DANIEL DRAKE.

Cincinnati, Ohio, January 19th, 1832

CONTENTS.

I.	<i>Page</i>
Selection and Preparatory Education of Pupils,	5
II.	
Private Pupilage,	20
III.	
Medical Colleges,	45
IV.	
Studies, Duties, and Interests of Young Physicians,	60
V.	
Causes of Error in the Medical and Physical Sciences,	69
VI.	
Legislative Enactments,	89
VII.	
Professional Quarrels,	96

ESSAYS
ON
MEDICAL EDUCATION,
AND THE
MEDICAL PROFESSION.

ESSAY I.

SELECTION AND PREPARATORY EDUCATION OF PUPILS.

Of the various occupations in society, scarcely one requires greater talent and knowledge, than the medical profession. This is especially true in the United States, where almost every practitioner must be, at the same time, physician, surgeon and apothecary. Obvious as this proposition is to many, its truth, unfortunately, is not generally perceived by those who are about to dedicate their sons to the profession—in other words, by the persons who above all others should feel and acknowledge its reality. Hence it results, that the ranks of the profession are in a great degree filled up with recruits, deficient either in abilities or acquirements—too often indeed in both—who thus doom it to a mediocrity, incompatible with both its nature and objects. Other causes contribute to its degradation; but this I am persuaded is one of the most frequent and most difficult to obviate. Still much might be done, if those who have the power, would open their eyes to the evil, and exert their influence in its suppression.

Few of those who are put to the study of medicine, can be aware of the magnitude of the undertaking, or of the insufficiency of their capacity and preparation; for the obvious reason, that they are, in general, young and inexperienced. There are, however, two classes of persons, who might be expected to judge more correctly, and have much in their power. These are parents and physicians, both of whom rather than our sons, should feel responsible to society on this subject; and to them I beg leave respectfully to address myself.

In the selection of boys for the study of medicine, many circumstances entirely disconnected with their fitness, too often exert a dominant influence; when their sway should be kept subordinate, or even regarded as entirely inadmissible. A neighbouring physician wants a student to reside in his office; or one son of the family is thought too weakly to labour on the farm or in the work shop; he is indolent and averse to bodily exertion; or addicted to study, but too stupid for the Bar, or too immoral for the Pulpit; the parents wish to have one gentleman in the family, and a *doctor* is a *gentleman*:—these and many other extraneous considerations, not unfrequently decide the choice and swell the numbers, while they impair the character of the profession.

Both parents and physicians should know, that boys of feeble frame and unsound constitution, cannot endure close study, and are best strengthened by hard labour; they should not, indeed, ever be put to the learned professions, unless they chance to possess extraordinary genius. Every physician must have seen many, who dragged out the whole period of their brief and reluctant pupilage, with dyspepsia, a pain in the breast, or hypochondria; conditions which either preclude all intense and successful application; or render it the cause of some other distressing malady, which terminates in premature death.

But it is not sufficient that boys selected for the study of medicine, should have good constitutions; they ought, equally, to be endowed with vigorous and inquiring minds. Without these, whatever may be the appearances of success, they must at last make incompetent physicians. It is especially

and indispensably necessary, that they possess, in a high degree, the faculties of observation and judgment; without which, they can neither comprehend the principles of the science, nor apply them correctly in the treatment of diseases. Notwithstanding this obvious fact, hundreds are put to the study of medicine, whose utmost grasp of intellect never encompasses the rudiments of the profession. As a matter of course, they slur over every difficult proposition; and afterwards grope their way for forty years, unconsciously committing 'sins of omission or commission,' throughout the whole of that long period. It is in vain to rely on society to correct this great evil, by discriminating among the candidates for their confidence; for the knowledge necessary to a correct selection, does not exist among them. In the other learned professions, this species of empiricism cannot produce the same mischief. The incompetent Divine, at most but occupies the place of an abler teacher, and the superficial Lawyer, is either driven from the Bar, by the exposure of his errors, or they are rendered harmless, by the skill of competent associates. But the physician, who has passed through the usual forms of a professional education, without the capacity to improve by his opportunities, is presumed by the people, to be qualified for every emergency; and sometimes even preferred to the ablest practitioners.

The student of medicine should not only be of sound understanding, but imbued with ambition. A mere love of knowledge is not to be relied upon, for the greatest lovers of knowledge, are not unfrequently deficient in executive talents, and go on acquiring without learning how to appropriate. Let parents, therefore, not be misled by the signs which indicate a fondness for study, unless the desire involves a feeling of emulation. A thirst for fame, is indeed a safer guaranty, than a taste for learning; as it generates those executive efforts, which are indispensable to the successful practice of the profession.

Further, the temperament of the youth, should be that of industry and perseverance; without which he will balk at every difficulty, and require to be goaded on through all sta-

ges of his pupilage. An indolent or irresolute student, whatever may be his genius, can never figure as a physician; and should, without delay, be apprenticed to some vocation, in which the destruction of limbs and life will not be the inevitable consequence of idleness and discouragement.

Finally, parents who are too poor to afford their sons the necessary opportunities, should not aim at making them physicians. If we now and then see one, whose talents, ambition and enterprize, have enabled him to acquire distinction, in despite of every obstacle, we meet with many more, who all their lives remain unfinished and imperfect, from the want of adequate time and opportunities, while engaged in their professional studies. I am the more disposed to insist on these truths, because so many fathers are ignorant of what is really necessary to make their sons good physicians; and place them to the study of physic before they have accurately counted the cost. Of all the causes which impede the progress of medicine in the United States, not one is more operative than this. The amiable vanity in which it originates, can scarcely be condemned; but parents should be admonished to look at the *consequences* of such an indulgence of feeling. Under the most limited opportunities, a son can make acquirements that may satisfy a fond father, who knows but little of the extent and complexity of the medical sciences; to be prepared, however, for the various exigencies of the profession, is a much more difficult affair. Paternal affection may blind us to the errors of our sons, but cannot obviate their prejudicial influence on society.

Having briefly considered the moral and physical qualities which fit young men for the study of medicine, I come now to say, that a majority of those who are selected for that purpose, are deficient in one or both classes of requisites. Let us enquire into the principal causes of this state of things—so unfavourable to the dignity of the profession and prejudicial to the interests of humanity.

The current opinion, that men of slender abilities are competent to the practice of physic, is, obviously, a great cause why so many feeble minded boys are dedicated to its study.

There never existed a time, when this opinion was well founded. In past ages, when medicine could not claim a place in the ranks of philosophy, it was still a science of observation, and called for an acute and discriminating mind. Though it could not rise above the grade of an experimental art, it never sunk to a trade the results of which were purely accidental, except when it fell into the hands of the imbecile or the unprincipled. At the present time, when the intricacies of the human structure have been unravelled, and many of its functions are understood; when the accumulated experience of centuries has developed numerous general truths, and the spirit of inductive philosophy has arranged them into a science—imperfect it is true, but still a science—when chemistry, natural philosophy, botany and natural history, have become essential preliminary branches, nothing can be more adventurous, than to engage in the study of the profession without a logical and comprehensive mind.

Another cause of the evil which we deprecate, is the liberal proportion of inferior men, who unfortunately belong to the profession, and so often succeed in acquiring business and popularity. An observation of this fact, not a little mortifying to the more talented members of the profession, encourages parents to set apart for the study of medicine, those sons who are least remarkable for strength of mind; reserving, the better class, for pursuits which in their opinion require more vigour of intellect, or promise greater distinction. Thus a degraded state of the profession is made to perpetuate itself, by influencing not only the ignorant, but the well informed; for when a father, who has a just estimate of the strong talents necessary to the study and practice of physic, apprehends that a son, of whose genius he is proud, may, on entering the arena, meet with many whose emulation is vitiated with envy; who labour to please rather than preserve their patients; or whose skill consists more in the arts of imposture than of cure; it is not unnatural for him to shrink from the anticipation of the rude struggle.

The root of this great evil is planted in society itself. Some persons are too dull to discriminate among the mem-

bers of the profession, others allow themselves to be captivated by pleasant manners, and not a few call for *cheap doctoring*, all of which tend directly to elevate false pretension and depress real merit.

But there are causes which attract, as well as repel, young men of genius from the profession.

It will not be denied, that, no passion is more intense and universal, than the love of gain. If not the first to be developed, it is the last to be extinguished; and, taken in the aggregate, perhaps no other exercises so much sway over the course and conduct of man. But in most parts of the United States, the practice of medicine offers little to gratify this desire, in comparison with commercial pursuits; and hence we find, that *they* exert an influence, which draws into the vortex of trade, no inconsiderable part of the talents and enterprise of the nation.

Strong, however, as the attractions of commerce unquestionably are, their influence is trifling, compared with those of law and politics. In no other country is the union of those two sciences so intimate, as in the United States. The regular course of promotion is from the county court house to the capital of the state, thence to the halls of congress, and, finally to the presidential palace; whose lofty entablatures, by a kind of looming, are seen with magical effect from every part of the union.

It is marvellous to see with what lustre, the 'seals of office glitter in the eyes' of the good people of these United States. The whole world furnishes no parallel case. The number of state and federal offices is so great, as to awaken political aspirations on our entire male population; and some of them are invested with sufficient emolument, power, and patronage, to excite the most intense emulation—I ought rather to say, the angriest rivalry. Thus are the genius and ambition of the nation drawn into the race of political glory. But for this, the law would scarcely exert stronger attractions upon the talent of the country, than medicine; for its own intrinsic rewards are not of a higher order, as the problems which it offers, do not require for their solution, a greater amount of

intellect, than the practice of medicine. How long this will continue to be the case, it is difficult to foresee; but as our population is progressive, while the number of political offices is nearly stationary, we may hope that the time is not distant, when the proportion of talented youth who are dedicated to the study of physic, will be much greater than at present.

The consequences of this deficiency of talent in the profession, are of serious import to the science and to the people at large. It is unquestionably one of the causes, which retard the progress of discovery and improvement. Of the thousands who annually go forth with diplomas or licenses, or without either, to engage in the practical duties of the profession, very few ever contribute a single new fact to its archives, or communicate an impulse to the minutest wheel in its complicated machinery. Acting on the precepts of others, they may, it is true, do some good, but they also do much harm; while to the great work of revising and correcting the principles of the science, they are of course utterly incompetent.

But this incompetency is not the effect of inferior *talents* only, it results, perhaps, in an equal degree, from want of education and mental discipline, on the extent and causes of which I shall now proceed to speak.

Although medicine is ranked with the *learned* professions, not a few of its professors are signally deficient in learning.* This is the case not only in the Western states, where for obvious reasons it might be expected; but in almost every part of the union, with the exception of some of our large cities. Writing as I do for practical effect, and to promote *reform*, I am constrained to say, that even at this late period, the profession abounds in students and practitioners, who are radically defective in spelling, grammar, etymology, descriptive geography, arithmetic, and, I might add book-keeping, but that they generally apply themselves to the study of that important

*Of course, on this occasion, I expect the reader to understand the word *professor* as synonymous with *practitioner*, and not as referring to public teachers; whose commissions must be regarded as evidence of learning, should other proofs *happen* now and then to be wanting.

branch, with a diligence which supplies the want of early opportunities. Grammar and spelling especially, (to use the language in which I once heard a physician speak of the circulation of the blood,) appear to be among the '*secret arcanaums of nature which Dr. Hamilton said never would be found out.*' Nothing is more common than to commit gross violations of both, in the directions which we write for our patients; and, what is still more humbling to the pride of the profession, not a few of us never learn to spell the names, either of the medicines which we administer, or the diseases which we cure. Were this confined to unauthorized members of the profession, it would be an affair of little magnitude; but extending to many of the graduates of *all* our Universities, it calls for unreserved exposure and unqualified reprehension. Before the Revolution, the schools of the Colonies were generally bad, and till lately those of the West were not fitted to impart a good elementary education; but at present they are so improved, as to leave no excuse, for the literary ignorance which disgraces the profession. The taint, however, is hereditary, and may yet run through several generations, unless the authoritative members of the faculty can be moved to unite their prescriptions upon it. It would certainly not be unreasonable to require, that every youth who aspires to connect himself with a liberal pursuit, should first learn to spell and write his mother tongue with as much accuracy as a country schoolmaster; if either his genius or misfortunes preclude such æquirements, he had better take to some calling which does not demand them.

On reading the foregoing sentences to a friend, I found him sceptical as to their accuracy; which leads me to declare, that *I* am entirely convinced of it. Nothing could be further from my heart, than a desire to disparage the character of a profession, to which, 'man and boy,' I have been attached for nearly thirty years; and to the advancement of which my humble exertions have been devoted for most of that period. During this time, I have become acquainted with the literary and professional ignorance of so many students and physicians, in and of, various parts of the Union, that I

cannot be mistaken in asserting, that the majority of the profession in America, are deficient in common school learning. If such be the fact, it should not be considered libellous to publish it, especially when done by one who claims no exemption from the imperfections which he deplures. So long as we 'measure ourselves by ourselves and compare ourselves among ourselves' we are not likely either to perceive or supply our defects. There can be no true reformation without a consciousness of its necessity; and if these remarks should contribute, but in the slightest degree, to excite it, I shall submit cheerfully to the odium which they may bring upon me, from those who find recrimination more convenient than improvement.

But is the education which our common schools confer, a sufficient preparation for the study of medicine? It certainly is not. To a familiar acquaintance with the branches which have been enumerated, the intended student of medicine, should add a competent knowledge of the elements of physical geography, general history, the art of composition, algebra, geometry, and mechanics. If these acquirements are not made before he enters on his professional studies, he will most probably remain without them through his whole life; the effects of which will be sufficiently obvious to others, if not felt by himself. After what has been said, concerning our deficiencies in the rudiments of learning, it will scarcely be supposed, that our acquaintance with the sciences of this second group, is such as to constitute a suitable introduction to medical studies. In truth, most of us live and die in utter ignorance of them. There *was* a time, when this ignorance, particularly of mechanical philosophy, would have been thought fatal to the success of a student of medicine. Our science was then, held to be a branch of general physics; and the laws of the living system, a mere modification of those which govern the operations of dead matter. I would be among the last to desire the revival of these exploded errors; but that we have passed from one extreme to another, seems to me an unquestionable fact. We cannot explain the phenomena of living bodies, *by* the principles of

natural philosophy, but at the same time are unable to comprehend them, without the aid of those principles. The functions of seeing, hearing, locomotion, respiration, and the circulation of the blood, can no more be understood without an acquaintance with the laws of natural philosophy, than the movements of the atmosphere or the heavenly bodies; but their agency in the two cases is widely different. In the movements of the universe, we behold *only* the influence of these principles; but in the functions of organized beings, they are subordinate to a vital power; the laws of which constitute the science of life, or physiology. Thus, organized bodies present us with a case, in which the general laws of matter are not repealed, but subjected to modification. Among all the works of God, we meet with no others which present such a great assemblage of agencies;—so diversified, yet co-operative—so admirably balanced—so harmonious, though complex and apparently involved—so productive of striking and beautiful forms! The human system is, indeed, the great mystery of creation, offering problems of matchless intricacy, and shrouded from human observation, by a veil which none should attempt to draw aside, without deep and varied preparation.

Suppose, what is not the fact, that to common-school attainments, our students added the first principles of mathematics, and the other sciences, constituting an academical course, would they *then* be properly qualified? I again answer they would not; and this brings us to the consideration of the learned languages, as an introduction to professional studies. I shall not attempt to travel over the whole ground.

The United States are, perhaps, the only civilized country in modern times, where it has been seriously doubted, whether the languages and literature of the ancients, should make a part of the studies of professional men. Of the various causes which have combined to suggest this question, one of the most operative is the spirit of liberal inquiry, which originated, and is cherished by, our free institutions. No people are so unshackled by prejudices and precedents; none so excursive; none so experimental, as the American. If

they do not 'try all things, and hold fast to that which is good.' they try many, and are strongly disposed to fix upon something new.

Another cause contributing to excite the same doubt, is the successful acquisition of business by physicians, who lived and died in ignorance of Greek and Latin. With such examples before us, it was natural to ask, whether the study of the dead languages should be regarded as indispensable, or even beneficial, to the candidate for the honors of the profession; and not a few have, at all times, been ready to answer in the negative. In this inquiry there has been much to lead us astray.

Our forefathers, (most of whom were illiterate) emigrated to a forest, which it has been the occupation of their sons to subdue. In the prosecution of this Herculean task, and the subsequent establishment of institutions—political, social, and literary, they frequently experienced a want of appropriate means, and were compelled by the exigencies of their novel and trying situation, to think and act with originality. Hence arose a feeling of self reliance; a spirit of independence; a disregard of ancient customs; to which we may in a great degree ascribe that indifference to the languages and learning of antiquity, which characterizes the majority of our citizens.

Thus physical circumstances have, indirectly, exercised a mastery over moral causes, and given a deflection to our European character, which promises to become permanent. Moral causes, however, have contributed to the same effect. In migrating from the old world, our ancestors took leave of the institutions devoted to classical instruction; and hence a generation, of necessity, grew up in comparative ignorance. It would be in vain to hope, that a due respect for the learned languages, or even a conviction of their utility, could survive such a transition; and hence we find, that in the United States, a want of acquaintance with them, has been no serious obstacle to the attainment of high *relative* distinction, in any of the pursuits of society. How long this will be the case, it is not easy to foresee. A perception of their value appears to be

returning; but I cannot suppose, that they will ever attain to the rank which they hold in the estimation of our elder brethren of Europe.

Meanwhile, it is the duty of those who can exercise any control over public sentiment in this respect, to exert themselves; and, if all who are interested in the dignity of the medical profession, could be brought to unite their efforts in favor of a more classical preparation of young men designed for the study, it cannot be doubted, that much might be accomplished, even in a single generation.

A physician who is ignorant of the Latin and Greek languages, whatever may be his genius and professional skill, must, to the eye of sound scholarship, appear defective and uncultivated. For more than two thousand years, these languages, especially the former, were the vehicles of all medical knowledge, except the little contributed by the Arabians; and, till within a century, our professional ancestors wrote, and prescribed, and thought, and lectured, in Latin. It was, indeed, to the profession a universal language; affording the means of an easy and accurate correspondence, among all the schools and physicians of Europe. Even down to the present time, the lectures in most of the Italian and German Universities, are delivered in Latin; while the examination of candidates, in many others, is conducted in the same language. Thus it has had a most protracted and intimate companionship with medicine; to the nomenclature of which it has freely lent its opulent vocabulary. Many of its words, no doubt, as well as those drawn from the dialects of Greece, are intended to convey, in their new situation, ideas materially different from their vernacular import; but in attempting to understand even these, the student is greatly assisted by an acquaintance with their primitive significations. With this knowledge of our dependence on the languages and literature of the ancients, to deny that the study of them must be beneficial, is scarcely less absurd, than to affirm, on the other hand, that every classical scholar is of necessity a physician.

But a thorough course of preparatory learning is useful, in more ways than one. It establishes early habits of application; generates a love of knowledge; trains the faculties; and inspires that firmness of purpose, which prevents him who puts his hand to the plough, from looking back. These are the cardinal virtues of a student; and they are in a great degree the effect of cultivation. We look instinctively at the grand and beautiful aspects of nature, but this is poetry, not philosophy. A poet delineates the surface, a philosopher decomposes the substance of things. One is born, the other called to his vocation. Education never made a great poet, nor nature a good philosopher. He is essentially the product of art. Toil is his destiny. He must sink a deep shaft, and draw up his treasures from below. Therefore he should be strengthened by timely and active effort. He must be inured to labour, and acquire adroitness in its performance. Hence he should begin early, for then only can suitable habits be formed. As well might he attempt, at twenty, to learn fencing, dancing, or a delicate and difficult art, as to commence at that age, without previous study, a course of philosophy. In both cases his awkwardness gives birth to the most discouraging failures. He feels, incessantly, the want of that strength and discipline, which are the offspring of practice, and are derived from it only. I would admonish parents to consider this subject anxiously and deeply. Many who place their sons to the study of medicine, are themselves illiterate, and do not apprehend the importance of early intellectual discipline. They transfer the objects of their care, from the plough to the doctor's shop; and require them to exchange the recipies of agriculture for those of pharmacy. Of the multitude, a few, by the force of an irrepressible genius, may rise to eminence; but the majority must lag forever in the under walks of the profession. Not having learned to climb, when the art might have been acquired, they may assault, but cannot scale the rugged steeps of science.

It is sorrowful to see, what every physician must have seen, the exertions of a generous young man consigned to the study of medicine, with a mind untutored and unstor-

ed;—to witness his ill directed efforts—strong but comparatively unavailing; his fitful application; his embarrassments under every difficulty; his disappointments and despondency; above all his mortification, from a consciousness of superior abilities united with a perpetual conviction of inferior progress. No devotedness to study, no intensity of ambition, no energy of intellect, not the whole combined, can make such an one what he would have been with early culture, nor raise him to the standard erected by his own vivid imagination. He may satisfy his friends, but must himself remain dissatisfied and unhappy.

But let us turn to a more common case. Suppose the youth as deficient in strength, as he is in discipline of mind;—what will then be his progress? To answer with a solecism, it will be *no* progress. There can be no advancement, when both nature and art array themselves in opposition. The first lessons of science, are to such a person, a ‘sealed book;’ which, like the worm, he may perforate, but can never open. Or, to use a more national figure, he is a militia man without courage or discipline, when one, at least, is indispensable to success. He cannot take captive, the vanguard of postulates, axioms, and definitions which lie in his way; and of course the citadel remains permanently hidden from his dim and uneducated vision. If dull young men *must* be apprenticed to medicine, common sense dictates, and common justice to them and society requires, that the pedagogue should begin his drillings early; for dunces are neither plastic nor acquisitive, and where the tree of knowledge grows slowly, it should not be planted late.

With these remarks I close this branch of our subject. If I have spoken freely, it has been as a friend, not an enemy of the profession. I have not written from the recesses of a cloister, but in the midst of society. Observation and personal experience have dictated every sentence, and afforded me satisfactory evidence of its truth. For this, moreover, I might appeal to all my enlightened brethren of the United States. Not one of them could venture to gainsay, what has been asserted; nor commend the apathy which connives at the

errors and abuses, which have been exposed. Let *them* begin the good work of reformation, and society will come quickly to their aid.

ESSAY II.

PRIVATE PUPILAGE.

It is impossible to approach this subject without emotion. I know of no other, the free discussion of which would be so likely to agitate the profession in America. That I shall treat it without prepossession, prejudice or passion, is not probable; nor is it certain, that I shall say all which should be said; but intending to write with courage and candour, I may hope to awaken, if not to guide, the spirit of reform.

To come at once, to a full understanding with the reader, I shall assume the general proposition, that *our system of private tuition is essentially bad*. But, in truth, we have *no system*; and it would be more correct to say, that in the United States *a good system of private pupilage is imperiously required*.

In the preceding essay, on the preparatory education of students, I have endeavored to show, that its errors and imperfections are permanently stamped on our *literary* character. If this be the fact, we can scarcely doubt, that a defective elementary education, in medicine, must greatly retard our advancement to *professional* excellence; and whatever does this, demands the gravest attention.

The ordinary time of private instruction is so short, as to require that it should be well employed. If the rudiments of the profession are not *then* acquired, they are seldom properly understood. It is not easy, afterwards, to supply the omissions, or correct the errors of that period. I have never known it done. Every stage of life has its peculiar tastes and appropriate studies. In youth we acquire elementary truths—in manhood arrange them into general principles—in the meridian of life, apply them to the production of practical results. Such is the law of nature; and was it inscribed on the doors of every medical library, they would not so often be opened to no beneficial effect.

Having spoken at large of the selection of pupils, I come now to the choice of preceptors. This is a point of more importance than most parents suppose. Many of them, indeed, seem to act on this important subject with but little discrimination. The circumspection with which they select masters, when about to apprentice their sons to mechanical occupations, is seldom manifested when a medical education is the object. They appear indeed to feel themselves incompetent to judge, in the latter case, and, generally, consult economy or convenience; although in so doing, they not unfrequently determine for their sons, a far more imperfect and limited destiny than they intend.

1. It is not *necessary* that the preceptor should be a man of genius; but it is indispensable that he should possess a sound and discriminating judgment, otherwise he will be a blind guide. Of his qualifications in this respect, every parent with opportunities of personal intercourse, may form a correct opinion. It is not requisite, that he himself should be acquainted with the principles of the profession to judge of the talents and common sense of its practitioners: The most unlearned can distinguish between a clouded and an unclouded intellect.

2. A preceptor should be learned, at least in his profession. If a father wishes to make his son a skilful mechanic, he places him with a good workman—not a botch. How can a man direct the studies of a youth through the elements of several different sciences, if his own acquaintance with them is imperfect and confused? As well might architecture be taught by one, who ignorantly combined in the same column, the parts and proportions which belong to all the different orders. To judge of the *attainments* of professional men, is a more difficult task, than to estimate their *abilities*; but although a father may not be able to do this by direct inquiries, he still has much in his power in this respect. The previous opportunities of the individual whom he scrutinizes, taken in connexion with his existing habits, will generally enable him to come to a correct conclusion. If the former have been limited and the latter are idle, he may safely conclude, that the

requisite attainments are wanting; and look elsewhere for the aid which is indispensable to a rapid and logical prosecution of studies.

3. It is not sufficient that a private preceptor has talents and learning. He must be devoted to his profession, jealous of its character, and ambitious of its honours. With such feelings, he will awaken high aspirations in the bosom of the youth whose destiny is committed to his keeping, enamour him with the sciences whose rudiments he is to acquire, and animate him in the toil which their difficulties impose.

4. The preceptor should be conscientious in the performance of his duties; that is, he should feel the responsibilities of his office, and studiously endeavour to discharge them. It is easy to deceive a father in regard to the progress of a son, in the study of a profession with which the former is unacquainted, for all his partialities coincide with the flattering reports of the master, and cause them to be received with credulity. In this way many a tutor has repressed paternal anxiety, and screened, from paternal vigilance, his inattention and neglect; inspiring high hopes, at the very moment when his own criminal derelictions of duty were sowing the seeds of their future destruction.

5. The private preceptor should, if possible, be a man of business:—Punctual to his pecuniary engagements, accurate in his accounts, and systematic in all his affairs. He will thus be an example for the imitation of his pupils, on points in which too many students of medicine grow up with deplorable and enduring imperfections.

6. Finally, sound morals and chastened habits are not among the least of those qualifications, which an anxious father would require in the man, whose deportment and precepts are to exert so great an influence on the character of his son. It would be superfluous to enumerate all the vices, which ought to disqualify a physician for the private tuition of boys and young men; but there are a few which from their frequency and effect, deserve, on every suitable occasion, to be held up to the scorn of society. A want of attention to professional promises, with a consequent fabrication of excuses

and apologies, is a failure which no preceptor can habitually display, with impunity to the morals of his pupil; and ought to be regarded as a disqualification, with whatever genius and learning it might happen to be associated. Gambling is another vice, the morbid influence of which on the plastic and imitative pupil, should be still more seriously deprecated; since in addition to the corruption which it carries into the youthful heart, it diverts from study, generates neglect of business, and leads to the loss of character and fortune. Lastly, intemperance not less than gaming, should displace a physician from the ranks of those whom we entrust with the tuition of young men. Intemperance, in the United States at least, has been regarded as a prevailing vice of the profession, and it has too often happened, that boys almost from necessity have been apprenticed to drunken doctors. I am proud to say, that this necessity is rapidly diminishing. Nevertheless, the number of intemperate physicians is still so great, that parents should proceed with care and caution in the choice of preceptors. One of the greatest calamities they could inflict on a son, would be to place him under the guardianship of a drunkard: if unsusceptible of being corrupted by example, he would suffer numerous embarrassments and mortifications—if susceptible, he must be ruined.

It would not be easy to estimate the injury which has resulted to individuals, to the profession, and to society at large, from a want of discrimination in parents, when about to place their sons to the study of medicine. Many a youth has, in this manner, been sacrificed by an ignorant or thoughtless father. Irresolution has sunk into moral cowardice, dullness declined into stupidity, and genius substituted its flights and phantasies for patient analysis; ambition has found its goal in the acquisition of premature and badly earned certificates and diplomas; idleness relieved itself by ceaseless changes from frivolity to frivolity; and the love of pleasure been left to luxuriate into licentiousness and vice. It is playing at cross purposes, for a father to dispense with the services of his son and incur the expense of his professional education; and, at the same time, to place him under an unqualified or unprincipled master. If

is due to themselves and their children, that parents should consider this subject seriously. It is, also, due to the profession and the community, that they discriminate on this point. When they confide their sons to the ignorant, the indolent, or the vicious, they encourage that, which every member of the commonwealth is bound to discountenance; and withhold from the learned and meritorious members of the profession, one of the legitimate rewards of their industry, zeal and perseverance. Could no physician hope to attain the distinction of being a preceptor, without first establishing a character for sound science and good morals, not a few who are now reckless of both, would be held firmly to their acquisition.

Another mistake which requires correction, relates to the time of life when medical studies are commenced. Essentially latitudinarian, the American people allow themselves in this respect, as in most others, a singular degree of liberty. Many boys are put to the study of physic at fifteen, while men of twenty five or upwards, who have been too indolent or too unskilful to succeed in their first pursuits, are every day seen to betake themselves to this most difficult and elevated vocation without a single misgiving. Examples of success might be cited in support of both periods, but still they are extremes. When a boy begins the study at fifteen or sixteen, he generally sets up for himself at nineteen or twenty; a time of life when he lacks *judgment*, whatever may be his acuteness of parts or the extent of his information. On the other hand, he who takes his first lessons after his mind has attained maturity, will seldom move with ease in the practical duties of the profession, even if his life have been spent in studies up to that period; and, if this should not have been the case, which in America is the general fact, the chances are altogether against his ever becoming useful or acquiring public confidence. Seventeen or eighteen, seems to me the most proper age to commence the study. By that time, a due preparatory education may be acquired; the mind and *hands* are still so plastic, as to be directed in their operations; the reasoning faculties are sufficiently developed to investigate the principles of the profession; and the period between that and

twenty one or twenty two, is about long enough to admit of the necessary acquisitions.

The youth of the United States, are not only put to the study of medicine at improper ages, but the period of their studies is too short. Nothing is more common than for them to enter on the practice, at the end of two years, or even eighteen months, and three years are thought to be a protracted and tiresome pupilage. But I do not hesitate to assert, that even that term is too short; and that four years should be considered as indispensable. Of the various causes, which have retarded the advancement of the profession in this country, and inflicted upon it such multitudes of medical practitioners who leave behind them no single monument of skill or science, this is one of the most operative and universal.— The blame rests, in part, on our *national* impatience to engage in practical exertions, but still more on the custom which prevails among fathers who are indigent or but little above that condition, of assigning their sons to the profession. The term of their pupilage, is thus determined, not by the sciences which they ought to study, but their means of support.

The situation and circumstances in which a pupil should prosecute his studies, deserve to be considered. In the country and all the smaller towns of the United States, the fashion is for the student to reside and study in the *shop* or office of his preceptor, and often to become a member of his family.— The latter has its advantages, as contributing to preserve him from dissipation; but his time is too often wasted in labours foreign to his studies, and he is apt to be introduced more frequently into company, than is compatible with his interests as a student. Of the *office*, as a place for study, "much might be said on both sides." It is the resort of many persons besides those who call for medical assistance, and the student is subjected to perpetual, if not protracted interruptions. In this way he loses many precious hours, which can never be reclaimed. At first, the effect of these interruptions is so distracting, as materially to impede his progress; but their influence diminishes with the repetition, until at last he comes to form habits that are not without their value in after life.

To understand this, we need only recollect, that the practice of his profession will subject him to incessant interruptions of a similar kind; and if he has not early acquired the art of reading in the midst of them, he will not read at all. From the want of this habit, many physicians pass their lives incapable, as they conceive, from the vexations of business, of reading as many volumes, as they should study every year. Another compensating benefit, is the practical facility which they acquire, from witnessing and assisting in the various little clinical and surgical operations, of which a Doctor's shop is the theatre. This however, is not without its disadvantages, as the student is liable to have his mind bent upon practical matters, long before he is able to comprehend their *rationale*; by which his attention is diverted from elementary studies, and a foundation laid for future empiricism. Of the different modes of generating quacks, this is the most prolific; and, as they bear the external marks of legitimacy, the most pernicious to society. Every student, however, should spend a part of his pupilage among the *officinal* substances, that are the agents with which future objects are to be accomplished. He should learn their sensible qualities by observation, and become familiar with all the compounds and pharmaceutic processes of the shop. But to acquire this knowledge, it is only necessary that he should be in the office, or in the shop of an apothecary, while prosecuting the study of chemistry and pharmacy. When engaged in anatomy, physiology, pathology and botany, the dissecting room, his chamber and the fields, are his appropriate situations. After having, however, acquired a competent knowledge of those branches, with the principles of surgery and the classification of diseases, he may and should return to the scenes of practical medicine; for he is then prepared to comprehend the nature of what he sees, and, to a certain extent, can engage understandingly in the duties of the profession. If, at this period, he be kept in retirement, indecision of character may be generated, and his future usefulness materially abridged.

The portion of each day, which pupils in medicine may devote to their studies, consistently with good health and the

future welfare of their constitutions, must necessarily vary in different persons; but a safe average would be one half, or twelve hours. This would give seven for sleep—and few young persons can do with less—two for meals, and three for exercise, labour and society. The last of these divisions is abridged by some and lengthened by others; but in general is profitless to all. With most pupils, the hours of relaxation from study, are hours of idleness, pleasure and gossip: Too often of downright listlessness, or ruinous dissipation. But whether whiled or rioted away, they bring no renovation either of mind or body. To answer the end for which they are set apart, they must be spent in active exertion in the open air; which will not only prepare the mind for new labours, but ward off dyspepsia, palpitations, hypochondriasm, and red eyes; and prevent that debility of frame, so falsely regarded as the necessary effect of hard study, when it results from the want of a sufficient amount of hard labour.

Is it necessary or advisable, that the student of medicine should prosecute his studies on Sunday? In answering this question, I shall of course speak not as a divine, but a physician and teacher. I would say, then, that it is not, but the reverse. As a general rule, his progress will be greater, if he suspend, than continue his studies through the sabbath. The mind, not less than the body, requires not mere moments of relaxation but hours of actual repose, at least from the particular labours in which it is engaged. Moreover, the student comes into his medical pupilage, with established habits in this respect, which cannot be violated with advantage.—Finally, the moral and devotional feelings require cultivation, and this can best be done by the recurrence, at stated times, of a day for that special object. On the whole, therefore, I regard those preceptors, who encourage their pupils in the prosecution of medical studies on the sabbath, as committing an error in their plan of professional education.

Closely connected with this subject is another of deep interest to parents as well as pupils. Few things exert a greater influence on our prosperity than a systematic attention to pecuniary accounts, and the observance of a judicious

economy in our expenditures; all of which must be practised in youth, to become matters of habit in manhood. When a father sends his son from home to study the profession, he should decide upon the style of living (always simple and unostentatious) in which the young man is to pass his apprenticeship; and, furnishing him, from time to time, with the necessary means, should require of him to render at stated periods an account of their appropriation. This would compel him not only to limit his expenditures to his resources, but give him at an early period, a habit of recording his disbursements and keeping his accounts, that would be of great advantage in all after years. I have known many physicians, who were neither accurate accountants nor good economists, merely because they had grown up in the habitual neglect of the duties which I have indicated.

Other studies than medicine, should occupy a portion of the students time. In the preceding essay, I have said, that a majority of our students of medicine, particularly those of the West, enter upon their pupilage with a most incompetent education. For all such there is no alternative, but to cultivate the elements of literature and science during their medical pupilage, or to remain superficial scholars throughout their lives. I regret to say, that the majority choose the latter. But are those who have enjoyed the advantages of a collegiate education, exempted from the necessity which rests upon their less favoured brethren? It is obvious that they are not. Few minds are so retentive as to keep what they have acquired at school, if they do not add to it, by a subsequent cultivation of the same branches. To secure this important object, it is absolutely necessary, that the student should devote to it a stated portion of every day—for example the morning or evening; and suffer no controllable circumstance to interfere with his plan. A small part of his time thus occupied, will in the course of four or five years make him a passable scholar, should his learning have even been at the *minimum*; but when he has the happiness to engage in professional studies with the attainments of a *bachelor*, he may by the course here recommended, so far extend his literary acquirements,

as to enter on the theatre of life with an enviable character for sound erudition.

It ought to be mortifying to our national pride, to observe how few of those who might thus become ripe scholars, ever attain to that distinction. Even many of our writers, except by the Latin mottos and quotations with which they seek to adorn their writings, would not be suspected of having pretensions to a liberal education; while to the majority of their professional readers, the whole garniture of classical common places, is occult and unintelligible.

The principal branches of literature and auxiliary science, to which the student of medicine should devote a portion of his time are:—

First, English grammar and the art of composition; without an attention to which, *after* the commencement of his medical studies, no young man need hope to become even a tolerable writer.

Secondly, Physical geography, embracing the leading facts in meteorology, which constitutes a foundation for the study of the physical condition and diseases of man, in the various countries and climates of the earth; a comprehensive view which should be taken by every physician.

Thirdly, The outlines of history; that he may be able to trace the progress of the profession through the different nations which have transmitted it to his own; and come to understand the influence of moral causes upon the physical system, whose aberrations he is to rectify.

Fourthly, The elements of mathematicks and natural philosophy; not merely for the purpose of invigorating his reasoning powers, but because the latter has many points of illustrative association with medicine.

Fifthly, The French language; since the subjects of morbid anatomy, physiology and pathology, have been recently cultivated with extraordinary success by the French physicians; but a small part of whose voluminous and classical writings, are translated into our vernacular tongue. To avail himself of this source of improvement, it is not necessary that the student should conquer the difficulties of the French pronun-

ciation. A few elementary books, with or without a teacher, are all that are requisite to open to him the rich treasures of medical knowledge, which that enterprising people have accumulated.

Sixthly, The Latin and Greek languages. Of all the branches of literature which have been named, it is, perhaps, most necessary, for those who would retain or establish the character of good scholars, to continue the study of these languages, through the period of their medical pupilage.— Their daily readings will extend their acquaintance with our own language; but without a special effort their classical knowledge will speedily depart from them. But few students are apprized of this fact, until they learn it from experience; when the discovery in general comes too late to be useful; for that which is lost by indolence is seldom reclaimed by industry. A few minutes of daily attention to Greek and Latin, would not only prevent deterioration, but ensure actual advancement; while a longer, but not objectionable period, would bring an uneducated pupil, to such an acquaintance with the grammar and vocabulary of those languages, as would prove in the end quite equal, to all that is generally left at forty, of the classical acquisitions of twenty.

Having disposed of the chief preliminary topics, we are prepared for inquiries of greater technicality and moment; and shall next consider the plan on which the pupil should be conducted through his professional studies. ‘Method,’ says Linæus, ‘is the soul of science,’ an apothegm to which most private preceptors in this country seem to be strangers. With their own professional knowledge unarranged, but provided with a small assortment of medicines, a meagre collection of books, chiefly practical compilations and compends, a few surgical instruments, and the fragments of a skeleton, they set up for preceptors; as unconscious of their incapacity, as they are ignorant of the defects in their means of instruction.— Their case, however, is far from hopeless; for in fact they win the confidence of the publick, by the palpable honesty with which they set forth their pretensions to its patronage. A student once acquired, he is turned loose into the *shop*, and, left to

eater for himself, where he becomes a real *eclectic*. Generally, however, he begins with descriptive anatomy; which, proving a *dry* pursuit, he abandons in due season, and seldom fails to hit upon *materia medica*, from which he proceeds to the practice of physic, obstetrics and surgery. He is now on elevated ground, and looks down on chemistry, pharmacy, botany, general anatomy, physiology and pathology, as matters well enough in their place, but lying so far below, that he cannot descend to them without disgrace. This occupies the first year; when being qualified to 'practise,' or at least for 'seeing practice,' his mind turns upon recepies; and he spends the second year, in collecting and cramming his master's patients with 'infallible cures.' After this, according to his pecuniary means, he either attends lectures, or 'opens shop' for himself. For the first half of this *course of studies*, the preceptor generally does not think it worth while to interfere; but the second passes under his watchful eye, and he is thus enabled to certify, that his *eleve* is amply prepared for the duties of the profession, and promises fair to become one of its brightest ornaments.

In medicine, as the other sciences, that method is best, which requires the student to take nothing on trust—to anticipate no principle or leading fact. The whole course should, therefore, as far as possible, be purely synthetical.

In conformity with this opinion, he ought to begin with CHEMISTRY; provided that science had not made a part of his academical or collegiate studies. It is not necessary, however, that he should go extensively or minutely into the practical details of this science; as the object is merely to prepare him for a proper understanding of the chemical terms, with which he will meet in the study of physiology.

Relinquishing chemistry he should engage in special ANATOMY, which may be studied in the following order: 1—the bones, 2—the muscles, 3—the viscera, 4—the blood and absorbent vessels, 5—the brain and nerves. He is now prepared for general anatomy, and should make himself familiar with the anatomical relations and dependencies of the various organs.

He will thus qualify himself for the study of **PHYSIOLOGY**, the foundations of which are anatomy and chemistry; and his progress, in that important branch of the profession, will, *cæteris paribus*, be in proportion to the accuracy of his anatomical and chemical knowledge. Having made a survey of the nutritive or vegetative functions, he should proceed to the animal; terminating his inquiries with the intellectual. Thus the close of his physiological course, will embrace the **PHILOSOPHY OF MIND**; a branch of science, if science I can as yet be called, whose dignity, and undeniable connexion with the study of mental alienation, may compensate for the obscurity of its *data* and the uncertainty of its deductions.

From physiology he may either recur to the studies of which chemistry is the basis; or, according to his taste or the judgment of his teacher, proceed by a natural transition to acquire an outline of **PATHOLOGY**. The latter is perhaps, on the whole, the better course; for when the mind of a pupil is deeply interested in the contemplation of the healthy functions, it passes with facility to the study of their disordered states; and thus, with little difficulty, comes to comprehend the general principles of pathology:—But he should, on no account, be permitted to stray beyond the rudiments of the science of diseased actions. And here I will take occasion to remark, that I know of no distinct treatise on the elements of pathology which is adapted to this stage of a pupil's studies; and, hence, it is necessary, that a selection should be made by the preceptor, of such parts of various works on the theory and practice of medicine and surgery, as will convey a correct general idea of the existing state of pathological science.

Having gone thus far in the study of the animal economy, in its healthy and morbid conditions, he must stop. In going further, he would instantly reach matters which he could not understand, for want of an acquaintance with branches which I shall now proceed to enumerate.

The first of these is **BOTANY**. It requires but little observation to perceive, that the science of the vegetable kingdom has many important relations with medicine. Plants and animals offer numerous analogies, in their structure, and the

physiology of one, contributes to enlighten us, in reference to the other. But the connexions of botany with *materia medica*, are still more intimate than with physiology, and cannot be overlooked by the most unobserving; and yet the majority of physicians are as ignorant of that beautiful science, as of algebra or astronomy. It is by no means necessary, that a physician should be a *practical* botanist; but it argues little for the taste or ambition of a student of medicine, that he is content to remain ignorant of the fundamental laws of any department of organized nature. The fashionable excuse for making a *pons asinorum* of the science of botany, is the extent and difficulty of its nomenclature. But admitting, that in this respect, it even transcends anatomy, while its utility is comparatively limited, I can perceive nothing in the case which should frighten a young man of courage and inquisitiveness, from the undertaking. If his knowledge of the Greek and Latin languages is considerable, the technicology of botany, can present no obstacles which a little resolute industry will not remove; and if he is nearly ignorant of those languages, the condition of most medical students, the study of botanical terms, will materially improve his knowledge of their vocabularies. In botany, more than most other sciences, that which is repulsive lies at the entrance. It might be likened to a garden hedged in with thorns and thistles: the tangled enclosure once penetrated, a rich possession of flowers and fruit is the reward. In addition to its utility, as a collateral aid to physiology, and an introduction to *materia medica*, there is another advantage in the study of botany, which deserves to be set forth. Plants are arranged by their external characters, among which there are innumerable affinities that cannot be seen and contemplated, without imparting acuteness to the faculties of observation, and establishing a habit of natural classification which is beneficial throughout life. In these respects, I know of no science that can be compared with botany.

Secondly. An outline of Zoology, although less necessary, should be regarded as desirable, and might easily be acquired. No man can be a profound physiologist, without studying

the modifications of the organs and functions in the different natural families of animals; every physician, therefore, should have a *smattering* (I do not venture to recommend more) of zoological science. Several medicines, moreover, to say nothing of aliments, are derived from the animal kingdom, establishing a different and not unimportant relation between its study and that of *materia medica*.

Thirdly. MINERALOGY. This science has many relations with ætiology; while its associations with *materia medica* are still more numerous and intimate. To recount them would involve the recollection of half the objects of that science. It would be superfluous, therefore, to insist on the necessity of some acquaintance with the mineral kingdom, did we not know, that this, as well as many other preliminary studies, is utterly neglected by most candidates for the honors of the profession.

Having thus added to his chemistry, a competent knowledge of the first principles of NATURAL HISTORY, the student approaches the composite science of MATERIA MEDICA, with conscious preparation, and a confidence favourable to success. It is the duty of his teacher to acquaint him with the important fact, that the natural and pharmaceutic history of medicines, is totally distinct from the study of their effects upon the living body, either in health or disease, and should first engage his attention. This, however, is seldom done, and the student is allowed to fix his mind upon the latter, before he has made acquaintance with the former;—an inversion in the order of study, which lays the foundation of many future imperfections. He should, therefore, be held rigorously to the natural history, composition, and preparations, of the different medicines; until he becomes familiar with the whole. He may then proceed to examine into their effects, on the animal system; and here, again, he will be in danger of inverting the order of inquiry. Most students are prone to connect the names of particular medicines with particular diseases, by which they lose the disposition to generalize, and establish wrong associations that often continue throughout life. The first object should be to arrange the articles of the

materia medica, according to their effects, not in the cure of diseases, but on the different functions; and beyond this important and difficult task, the pupil at this stage of his studies should never be allowed to proceed, as the very next step would be taken in the dark. It is necessary, therefore, that he should again change his course, and direct his inquiries upon other objects, which I shall now proceed to consider.

I will not say, that in returning to the study of diseases, the pupil should review his anatomy, for in fact this fundamental branch of the profession, should not have been neglected in any period of his course, as no kind of knowledge is so difficult to retain. Hence he should, as far as practicable, associate it with all his other knowledge, a measure that will contribute greatly to its retention and usefulness. He should, however, review his physiology; not by re-perusing the authors already gone over, but some treatise or compilation which he had not before read, and which presenting new facts and speculations, or old ones in a new aspect, may clear up his doubts and fix his principles. This being accomplished, he resumes the study of pathology, with acquirements that will enable him to discuss the theories of physic and surgery to their utmost limits. These theories he is not to regard as separable into distinct sciences, for they are in fact one and indivisible. Their primary elements are the same. Every physician need not be an *operative* surgeon, but every good surgeon must be likewise a physician. The mere operator, if any such there be, is but a mechanic. The amputation of a limb is a mechanical process; but the treatment which might have been employed to subdue inflammation and ward off the gangrene that rendered the operation necessary, could only be guided by the principles of clinical medicine. Take another example. The extraction of the calculus is effected by the use of instruments, moved according to certain *formulae*; but the diathesis which generates the stone, is among the most occult and complicated subjects which can tax the genius of the physiological pathologist, or animate his clinical efforts. The *desideratum* is, in fact, a method of treatment that will render a resort to the cruel and hazardous opera-

tion of lithotomy unnecessary. The surgery of this case, then, as of most others, grows out of the imperfection and constitutes the opprobrium, of its therapeuticks; and the man who might limit himself to the former, would justly be regarded as an empirick. Again. The whole subject of inflammation, belongs equally to medicine and surgery, and may be studied without a special reference to either, while they contribute alike to the illustration of its origin, progress and termination.

Whatever, then, may be the ultimate aims of different pupils, their pathological studies should be the same. They must seek to acquire distinct and vivid conceptions of the morbid states which are supposed to be indicated by the terms congestion, irritation, inflammation, fever, nervous irritation, morbid sensibility, sympathy, spasm, morbid secretion, metastasis, vicarious action, collapse, torpor, debility, exhaustion, proximate cause, organic læsion, vis medicatrix, obstruction, local determination, malignity, and many others of subordinate moment, which constitute the elements of pathology, whether clinical or surgical. When they have grappled for a sufficient time, with the difficulties which every attempt to learn the true import of these common, but equivocal words unavoidably imposes, they may proceed to consider the *varieties* of inflammation, fever, spasm, and the other morbid states, which will bring them to Nosology, or the classification of diseases; when for the first time, they will perceive the paths by which those who intend to limit themselves to clinical medicine, and those who propose to cultivate operative surgery, are to diverge from each other. Having looked into the systems of nosology, with sufficient care to perceive, both their importance and their imperfections, the coadjutors may betake themselves in *some* degree to separate studies:—the student of physick to functional, the student of surgery to organic derangements. The latter are, however, in all cases—mechanical injuries excepted—the offspring, as in turn they become the occasion, of the former; and hence they must both be studied by each class of pupils, though not in an equal degree. In his nosological inquiries, the student

becomes acquainted with what the naturalists call *essential characters*; but, arriving at the investigation of particular maladies, whether medical or surgical, he will of course extend and correct his knowledge of SYMPTOMATOLOGY; endeavouring by the utmost effort of his understanding to connect each symptoms with the morbid state of which it is the sign. In doing this he will be led to enlarge his knowledge of MORBID ANATOMY, the first ideas of which might have been received while engaged on general pathology.

In this stage of his progress, he is qualified to investigate the causes of disease, a subject so enveloped in obscurity, that many students give it but a passing attention. AETIOLOGY is, however, a branch of medical science of sufficient importance to justify, I should rather say, demand an attentive investigation; and the very difficulties with which it is beset, should stimulate a pupil to its deep and protracted examination.—Scarcely any portion of his studies will bring into requisition all his knowledge of nature and art, like that of which I am speaking. Of the origin, combination and mode of action of the *causas morborum*, much remains undeveloped; partly from the intrinsic difficulty of the subject, but still more from the loose and limited manner in which it has been generally studied. With these convictions, I would indicate it to students of medicine, as a department of the profession in which they may labour with a well founded hope, of doing good to society and credit to themselves.

Finally, he arrives, by a regular transition, at the PRACTICE of the profession—its therapeuticks and operations. He studies the indications of cure, and labours to establish in his mind, correct associations between symptoms and remedies—an association not arbitrary and empirical, but founded on an ample and accurate knowledge of the functions of the living body, in their regular and irregular conditions; and of the influence of external agents in the production and cure of diseases. The popular distinction between physic and surgery now becomes more apparent than before; and I shall proceed to speak of them separately.

The student who intends to limit himself to the practice of physic, must recollect, that even in countries where the line of separation is drawn with an absurd and unnatural precision, the physician is compelled to prescribe for a great number, and variety of cases which belong equally to the province of the surgeon. If this be the case in Europe, it must be much more so in the United States, where out of the large cities, there are no professed surgeons. In fact, all our physicians are surgeons likewise; and differ from the practitioners so called, only in declining the performance of a few of the greater operations—such as those for hernia, lithotomy, aneurism, deep seated tumours, cataract, and a few others. To the reduction of dislocation and fractures, the management of ulcers, trephining, amputating, dressing wounds, and other duties of a similar kind, which, from their frequency, make up the mass of surgical business, every physician is presumed to be competent. The pupil then, even when engaged in his *practical* studies, is by no means to limit himself to that which is technically called physic; but, extending his inquiries to surgery, stops short of nothing but its higher operations.

Every part of a course of medical studies abounds in difficulties, and calls for intense and sustained application; but no stage is so trying to the powers of the student, as that which may be called the *therapeutick*. Hitherto he has occupied himself, successively, upon distinct sciences, which he perceived to abound in connexions favourable to their union into a system of professional knowledge; and that union, in reference to his own mind, he is now to effect. He is faithfully represented by the commander, who having embodied and equipped a great variety of separate military *corps*, has at length to consolidate them into an army and direct its active operations.

It is difficult to furnish a student with rules for the organization of his various attainments into a practical system, and much must necessarily be left to his own genius and judgment. A few hints, however, may not be without their utility.

1. If he now finds deficiencies in any of his preliminary acquirements, he should supply them, without delay, by a recur-

rence to the branches in which they are discovered to exist.

2. In ascertaining general principles, he should carefully note those which are of a doubtful character, and rest upon them as few rules of practice as possible.

3. His practical maxims, in all cases, should be logical deductions from his principles.

4. If they do not conform to those of the great and original writers of the profession, he should *doubt* their correctness, and act upon them cautiously; but not reject them without a trial.

5. He should recollect that the same diseases, in different countries, frequently require variations in their treatment, and that he must not implicitly adopt the rules of practice that have been found successful elsewhere.

6. When he meets, in practical works, with different modes of treatment for the same disease, he should not suppose that one only can be correct, and the others necessarily erroneous; for diseases may be cured by various methods. In becoming an eclectic, in these cases, he must carefully examine the whole, and test their merits by the great principles of pathology and therapeuticks, which compose his own system. When he attempts to select from among them, he should avoid uniting rules or recipies that are incompatible, and would therefore countervail or neutralize each other.

7. In his practical readings, he should always prefer original works to compilations, and monographs to systems.

8. He must be on his guard against the delusion of a fancied simplicity, in the system which he constructs. Every complex machine is liable to a variety of irregular movements, which can only be reduced to order by a corresponding diversity of means. But of all machines the human body is the most complicated, exhibits the greatest number of disordered actions, all differing from each other, and requires the greatest variety of remedial applications.

9. When arrived at this stage of his studies, he should no longer stand aloof from the practical duties of the profession; but avail himself of frequent opportunities to make an application of his knowledge. This is the end for which he has

studied, and his final success will be proportionate to the facility and effect with which he can make such application.— Skill in practice does not arise, however, from the number of cases he may see or treat, so much as the manner in which he contemplates them. Each one should be a study, and all things relating to it, should be connected with the principles that guide him, and which, in turn, they may serve to illustrate or overthrow.

Should the student intend to make OPERATIVE SURGERY, his principal object, he may observe most of the foregoing suggestions, while he bestows especial attention on the following subjects:—

1. The anatomy of the parts which are the seats of the greater operations of the art. With these parts, particularly such of them as cannot be cut into without danger, he should be perfectly familiar:—Not merely able to enumerate the muscles, and fasciæ, and nerves, and bloodvessels of which they are composed, but to conceive accurately of the relative situation of those anatomical elements. He should, moreover, learn to know each part, not only by the eye, but by the finger; as it will frequently happen, in deep and bloody operations, that the sense of touch is the only one he can employ.

2. He should practise the various operations on the dead subject; for by practice only, can he become adroit, or acquire that confidence which gives self possession in moments of difficulty and doubt. In this stage of his *practical* studies, he will often find it advantageous to supply the deficiency of human subjects, by a resort to dead animals; in the selection of which he will be materially aided by some acquaintance with zoology.

3. He should practise on the living or the dead subject, the application of the various kinds of bandages and apparatus of surgery. For the neat and efficient discharge of this duty, more experience is necessary, than many persons suppose until they come to the trial in cases of real injury, when it is too late to prepare themselves.

I shall conclude this branch of the subject with a reference to OBSTETRICS. This department of the profession is empha-

tically a compound of physic and surgery, and on this account not less than many others, it should be the last which a pupil studies. The healthy functions of the uterine system however, will have been leared by him, as a portion of physiology. As to obstetrical studies, the most important observation I can make, is, that the young physician will be called upon to act, with less of *practical* information, than in any other branch of the profession, for in no stage of his pupilage can he have many opportunities of acquiring that kind of knowledge. Hence he should study the subject in books, and by means of plates and models, with extraordinary care and diligence.—Without doing this, he may be thrown into situations of responsibility, most harrowing to his feelings, if not fatal to his patient.

With these intimations, I shall close what it seems necessary to say, concerning the method on which a course of professional studies should be conducted; and in conclusion, shall speak of the aid which the pupil should receive from his preceptor.

At the risk of being thought severe, and perhaps tedious, I feel constrained to repeat, as a general fact, that the physicians of the United States, are culpably inattentive to the studies of their pupils; and that this is one of the causes which retard the improvement, and arrest the elevation of the profession. Exceptions to this (apparently invidious) remark, are frequently met with, especially in the great cities; but still they are *only* exceptions. Without presuming to inquire, at large, into the causes of this default, I may mention that which seems to me, the most operative. The price of tuition is too low. The preceptor feels no business obligation, and too often forgets what he owes to society and the profession. Like other men, he gives in proportion as he receives, and when a pupil comes without money, permits him to depart without knowledge. He would thus, by implication, cast the whole blame on the father, but the fault is equally his own. He ought not to take a student, without the design of making him a good practitioner, and when an inadequate fee is proffered by the father, should decline the application. If he does not,

but graduates his aid according to the reward, he degrades the profession and is accessory to an imposture on the community. On this subject unfortunately we have no *esprit du corps*, no uniformity, no emulation; while the whole are imperiously required. The conscience which warms and purifies our professional efforts in the sick chamber, is too often dumb in the study, where its promptings are equally demanded. Tuition is an art, but not governed by fixed and universal laws. The student is to be urged onward from the 'known to the unknown' through a variety of complex and difficult sciences. In this proceeding, the mere *ipse dixit* of his preceptor can do but little good; while a well directed superintendence will confer lasting benefits. The kind and manner of assistance must necessarily vary with the idiosyncracies of both master and scholar; for that which facilitates the progress of one pupil, sometimes retards another, who requires a different regimen; and the methods which one preceptor follows with success, are often impracticable for another, from being inconsistent with his temperament and habits. But in the midst of these diversities of character, to which an excessive importance ought not to be attached, we may perceive, several methods which are applicable to every case, and I shall proceed to enumerate them.

1. The physician who proposes to become an instructor, should provide the requisite books, engravings, preparations and apparatus. He must not rely on his own attainments, as they cannot be transferred to his pupils, but through the instrumentality of established means.

2. He should form a plan of elementary studies and require his pupils to follow it. To this end he must designate every book that is to be read, and debar them from the perusal of any others. It is even necessary, to mark portions which should be passed over, as being incomprehensible without ampler preparation, or as having been proven erroneous. All our systematic works abound in chapters of the latter kind, the study of which cannot be too strongly reprobated, as planting errors in the young mind which may never be eradicated.

3. He should encourage his students to ask him questions and solicit his aid, on the obscure and difficult parts of every author; that nothing may be passed through without being understood.

4. As a further means of effecting the same object, he ought to examine every one on the book he has just finished; and, thus, not only correct his errors, but animate him to close and accurate application.

5. At least once a week he ought to assemble his pupils into a class, and subject them to systematic examinations on the studies in which they are then engaged. When such examinations are ably conducted, they constitute the most interesting and valuable exercises in which students ever engage. By a series of well directed questions he may guide them through the labyrinths of the most complicated subject; and enable them to analyze that which they would otherwise find impenetrable and hopeless. Their errors of principle and nomenclature will be corrected; and their confidence in the truth established; their scattered acquirements solidified into a system, its deficiencies made manifest, and the mode of supplying them indicated. Thus they will be led to contemplate and comprehend the relations which unite facts, that in badly educated minds remain insulated and in apparent variance. Above all, he can in this way and no other, relieve the *tedium* of solitary reading; invest the study with charms that render it attractive; and inspire an emulation for relative excellence, that will seldom fail to work out positive distinction.

6. He should require each pupil, at least once a month, to write a thesis. This exercise should commence with his studies, and continue till it terminates in his inaugural dissertation. Its advantages are manifold, not the least of which is the pleasure, which, in a short time, it affords to every aspiring and inquisitive student. When studying anatomy, his theses will of course be purely descriptive, a kind of writing in which none can be proficient without practice. As he advances, they may assume a higher and more diversified character. Some of them should be simply abridgements of chapters written with diffuseness, of which, unfortunately,

there is no lack; others might be purely analytical; others critical, or in the manner of reviews; and a portion, mere commentaries on authors of a concise and aphoristick cast. In this way, he will form habits of attention, and be led to study with profit, what he would have passed by with carelessness. In the latter periods of study, his essays may take on a still higher character. He may begin to unite facts into regular dissertations, according to the rules of a sound philosophical logic; investigating principles, and constructing the elements of the system which is to guide and govern his future efforts in the practice.

Was the custom of writing enjoined on every pupil, we should not have so many candidates for graduation, incapable of composing their own theses; nor so many good physicians, who are unqualified to lay before the profession the results of their experience. Not a few of them, indeed, from neglecting what is here recommended, find themselves, in after life, unable to write a single sheet of professional directions with simplicity, taste and perspicuity.

7. Lastly. It is the duty of the preceptor, when his pupil is prepared for clinical observations, to select for him such cases as will be profitable. The DIAGNOSIS of diseases presents many difficulties, and can be successfully studied only at the bed side. To introduce a student indiscriminately to all cases, is more likely to confuse than enlighten his mind. He should first study those which present a well defined character, and proceed gradually to the more obscure and complicated. But the most judicious selection of cases, will impart but little instruction, unless they are made the subjects of conversation and comment by the preceptor. In these clinical lectures, the benefit which he confers upon his disciple, if not greater, will be more deeply felt, than in any other period of their connexion. The utility of what he has been teaching will now be made apparent; and the endearing relation finally dissolved, with feelings of gratitude in one, and self approving consciousness in the other.

ESSAY III.

MEDICAL COLLEGES.

Medical colleges, or, their present plan, were not known till since the revival of letters, in Europe. For two or three centuries, they were few in number, and chiefly sustained by the genius and labors of individual professors; of whom Boerhaave, Haller, and the first Monro, may be cited as illustrious examples. The 18th century augmented their number, and established their importance; but it was reserved for the 19th to multiply them to an unprecedented degree, and show, that they may be composed in part, of men whom the pride of science would, formerly, have pronounced unfit for such a lofty and difficult duty.

In the United States, the number at the close of the last century, did not exceed three: it is now at least fifteen, and others are annually springing up. This extraordinary increase, may be ascribed, in part, to the great number of state sovereignties which make up our confederacy, each of which, instead of the federal government, grants college and university charters; and is ambitious to rival its neighbors in the number, if not the excellence of its institutions. But another cause is equally operative. This is the want of due care in the selection of professors; by which the standard of professorial excellence is depressed to a level, that brings the office within the reach of unqualified aspirants; and offers to mediocrity of talents, a degree of encouragement which no age or nation ever before held out.

Did the best talent of the American profession find its way into our numerous schools, it cannot be doubted that they would be ably sustained; but truth and justice require me to say, that this is not always the case; and that every part of the union, presents men of loftier genius, sounder learn-

ing, and purer eloquence, than many of those, whom the trustees of our different institutions, from time to time, select as professors.

In most of our schools the number of professors is too small. Some there are, or have been, which carry on all their operations, and graduate their pupils, with only four. Several have but five, and six are regarded as a *maximum*, which *need* never be exceeded. In Europe, however, the number is much greater; and in this respect we have unwisely departed from her example.

Nothing can be said in favor of this feature of our institutions. It has certainly not arisen from any new investigation of the principles, on which medical schools should be established. It cannot be viewed but as the offspring of a competition, which has taken the downward, instead of the upward course; and offers a premium for pupils, in the small amount of its aggregate fees of tuition. Another aspect under which the same spirit manifests itself, is to be seen in certain schools, which have the ordinary number of professors, but charge little more than half the ordinary price for their tickets. Such institutions may be lauded as favoring the poor, but the real motive is, the acquisition of students, by the only means they are competent to wield.

For myself, I am convinced, that every medical school ought to have eight professors; and that with less than six, it should, in the phrase of Lord Bacon, 'be noted as defective.' As to the distribution of the duties, there may be some diversity of opinion; but the profession, generally, would perhaps concur in the following: 1. *Anatomy*. 2. *Institutes of Medicine*. 3. *Practice of Medicine and Clinical cases*. 4. *Surgery*. 5. *Materia Medica*. 6. *Chemistry and Pharmacy*. 7. *Obstetrics*. 8. *Medical Jurisprudence*. In addition to these branches, some of the professors, if qualified, should, in the summer, deliver lectures on the elements of Botany, Zoology and Comparative Anatomy, Mineralogy and Meteorology; all of which have relations with the medical profession, which will be perceived and appreciated, in proportion as juster

and nobler views of its extent and dignity are disseminated. If but six professorships are established, Physiology should be united with Anatomy; the remainder of the Institutes with the Practice; and Medical Jurisprudence distributed among the chairs of Anatomy, Surgery, the Practice of Physic, Chemistry, and Obstetrics; an extent of association, which at once discloses the magnitude and complexity of this neglected branch of the profession, and evinces the necessity of confiding it to a separate professor.

In all the medical schools of the United States, the lectures of each preceding year, are, as to topics, the same with the last; and there is no classification of students, according to the different stages of their studies. Hence, it is not uncommon, to see a youth, in the first year of his studies, attempting to comprehend lectures on the Practice of Medicine, Operative Surgery, and even Practical Obstetrics, while, by his side will be seated, a candidate for graduation, attending to the first lessons in Descriptive Anatomy and Pharmaceutic Chemistry. There must be something wrong in a system, which leads to so great a sacrifice of time. I am not prepared to assert, that it would be practicable to class our students of medicine into juniors and seniors, and have lectures adapted to each division, but I would strongly recommend, to every student who visits a medical school, to direct his attention, chiefly, during the first course, upon Descriptive Anatomy, the Institutes of Medicine and of Surgery, Chemistry, Pharmacy, and the Natural History of Medicines; reserving, as the great objects of study for the second course, General and Surgical Anatomy, Operative Surgery, Therapeutic Materia Medica, Obstetrics, and the Diseases of Women and Children. In proportion as he observes this order, his time will be efficiently employed, and his knowledge well arranged.

A still greater evil than any of these, is the short sessions of our American schools. In some, the session continues but two or three months, and four are the prevailing term. The late celebrated Professor Wistar, admitted to me, in the year

1816, that the founders of the Philadelphia school, had committed a great error, in not establishing a session of six months, which would, doubtless, have been imitated by those who founded other institutions. The projector of the Medical College of Ohio, fixed its session at five months; which was, afterwards, unwisely reduced to four, although found to meet the approbation of the pupils. Were the different institutions of the United States, to agree to extend their sessions to five or six months, they would do more to elevate the profession, than could be done by any other single act; and all who wish well to the dignity of the profession and the interests of humanity, should unite in effecting so desirable an object.

By extending the term, the existing evil of so many lectures each day, would be obviated, and the student could find time to digest all that might be administered to him; as well as to compare what he should hear, with what he might see in the different text and standard works. Under existing circumstances, this is well known to be impracticable.

Four lectures a day, are as many as can be appropriated to itself, by an ordinary mind, and the number should never exceed five. But few students can listen to six, with as much advantage as they would derive from two-thirds of that number. They become cloyed and oppressed; and long before the end of the fourth month, find themselves fatigued, impatient, and irritable, and prepare to depart. I have no doubt, that they would endure a session of six months, with fewer lectures, daily, in greater contentment, than they now bear our short sessions.

The daily succession of lectures, which requires the attention of the student to pass, rapidly, from subject to subject, which have no natural relations to each other, is trying to the intellect of pupils, and necessarily detracts much from the value of our instruction. For this evil, there is, perhaps no practicable remedy; and students, generally, do not complain of it, as the change is refreshing, and serves to reconcile them to the wearisome existence of the lecture room.

Experiments and demonstrations are, or should be, the great object, in every medical institution. Much that is taught in lecture rooms, might be as successfully studied elsewhere; but Anatomy, Chemistry, Pharmacy, Operative Surgery, and Obstetrics, demand exhibitions to the eye, and no medical school is worthy of patronage, if deficient in the means of illustrating these important branches of the profession. Those, however, who endow and govern our institutions, should recollect, that the accumulation of the *material* of science, cannot be made a substitute for skill in its use; and that a department loaded with apparatus, will confer on students no substantial advantage, if the professor be deficient in talents and practical *tact*.

The subject of hospital practice, must not be passed over in silence. That it *might* be made a source of great improvement to students, no one can deny; that it *is* such, no one, I believe, will venture to assert. For a few weeks after the commencement of the course of lectures, students are zealous in their attendance at the hospital, on prescribing days; but each one soon discovers, that in the throng, his opportunities for accurate personal observations, on the condition of the sick, are too few and momentary, to render his attendance in the wards of any substantial benefit; and his visits, thenceforward, become occasional and still more unproductive, because made under a feeling of discouragement. To derive benefit from hospital practice, students, who have the means, should attend upon it through the vacation, when the number is smaller, and the opportunities for personal observation, are, consequently, much greater.

Lecture room examinations are an important means of sustaining the attention of a class, but they are often misplaced and sometimes worse than useless. The common practice of examining students, at the opening of a lecture, on the subject of the *preceding* day, is unfavorable, except when it serves to prepare the mind for the investigations on which the professor is about to enter. Whenever the topics to be discussed, are foreign to those of the last lecture, it should

not be recalled, to pre-occupy the attention of the class. Under such circumstances, a few questions on the matters which are to be immediately presented for examination, will prepare the minds of the pupils for engaging in them, and can never fail to awaken a spirit of inquiry. During a lecture, interrogatories on the subjects then before them, are well calculated to arouse the attention of the students from its passive condition, and contribute greatly to relieve the *tedium* of their situation. But it is at the close, that examinations are of the greatest value; as a recapitulation of the leading points, will, in this manner, be indelibly impressed on the mind.

Medical professors should be men of learning, but the lecture room is not the most proper place to display the extent of their book researches. The citation of a great number of authorities, is seldom profitable to students. They should expect from their teachers, an account, clearly and methodically expressed, of the ascertained facts of the science; and, in general, the less this account is encumbered with quotations and references, the better will it be understood, and the deeper will be the impression. Great learning may excite the admiration of students; but their thirst for useful knowledge can only be satisfied by accurate analysis, and the skilful arrangement, of common and generally admitted facts.

The abolition of the practice of publishing inaugural theses, seems to me to have been made inconsiderately. It has certainly destroyed one of the motives for close application, and while it has relieved the candidate from some trouble and expense, it unquestionably has diminished his exertions. It is well known, that when inaugural theses were printed, the desire to afford, in their first publication, an earnest of future distinction, led many students, into extended courses of observation, research, or experiment; which served to awaken them to a proper estimate of their powers, and by committing them to the public as young men of lear-

ning or genius, gave an impulse of character, which often continued through all after life.

The rule that a student may matriculate at any time within the first month of the course, leads to great procrastination in starting from home; and in its bad effects is only equalled by the absurd custom of leaving the university before the expiration of the lectures. They cannot be too strongly reprobated. In all the schools of the United States, these customs prevail to a degree that calls for an immediate corrective. But a single week should be allowed for matriculation after the introductory lectures are finished; and the student who leaves the school without permission, before the end of the lectures, should not be allowed credit for a course, when he proposes to graduate. In losing the two or three last weeks of the session, he does himself much injury, and disturbs the regular progress of those friends who have greater firmness of purpose, by turning their minds upon home and its endearments. The whole evil would be corrected, by requiring them to take of the Dean of the Faculty, a parting ticket, and I cannot but hope that this practice will be adopted in all the schools of the Union.

I come now to speak of things which depend more especially on the students themselves.

Many students commence attendance upon lectures, without due preparation. If they reside, or prosecute their studies from the beginning, in the neighborhood of medical schools, they may, with advantage, begin the study of Anatomy, Chemistry, and Pharmacy, by attending the lectures on those subjects. But little advantage can result from their commencing other branches of the profession, in the lecture room. From twelve to eighteen months of diligent reading is necessary, to prepare a student for listening with profit, and without confusion of mind, to lecturers on Surgery, the Practice of Medicine, Materia Medica, and Obstetrics.

A timely entrance upon the course of the lectures, is scarcely less important, than a due preparation by previous studies.

To avail himself of the full benefits of the session, a student should arrive and take comfortable lodgings, before the lectures commence. He thus brings his mind into a suitable condition for study, and from the beginning, is able to derive advantage from what he hears.

Disorderly conduct and noise, in the lecture rooms, are great drawbacks on improvement. The idle and unambitious are, generally, the instigators of this confusion ; which should be met and put down, by the public sentiment of the class, in conjunction with the moral power of the professor ; neither of which is, in general, exerted in the manner it might be. Not a little of the disorder which lecture rooms present, arises from the practice of coming in after the lecture commences, or going out before it is finished. No member of the class should feel himself at liberty, thus to violate the laws of courtesy, and disturb the attention of those, who, unlike himself, are desirous of acquiring knowledge, the great end for which they are assembled.

Students should not only enter the lecture room in due time, but, as far as possible, return to the same seats, respectively ; the advantage of which, both to pupils and professor, would be found in the uniform appearance which the room would present, from day to day, whereby the attention would not be distracted by new combinations and aspects of the class. Indeed, a return to the same seat is necessarily attended with an association of ideas, which is favorable to study, and, *ceteris paribus*, those who practice it most, will be most benefitted by the lectures.

The practice of cutting the benches, and otherwise marring, or eviscerating the room, should be punished, as a depredation, while the class should frown upon it, as puerile, and unfavorable to rapid improvement ; which cannot fail to be more or less impeded, by the petty violations, which transform a beautiful and well ordered apartment, into a scene of dirt and desolation.

In short, students of medicine should be *gentlemen* in the lecture room, as well as the drawing room ; and consider it

discreditable, to abandon themselves to levity, mischief, and idleness; all of which are not less at variance with propriety than improvement.

Taking notes is an important employment of the lecture room, and one for which but few students are prepared. At the beginning of the course, most of them are zealous in this labour; but its difficulties, in many cases, speedily diminish this zeal, which is often succeeded by downright indifference. The pupil should be careful never to attempt too much, particularly during the first course. On Anatomy, Physiology, Chemistry, Pharmacy, Operative Surgery, and practical obstetrics, as a general observation, notes should never be taken; and much of what constitutes courses of lectures on the Institutes and Practice of Medicine, *Materia Medica*, the Principles of Surgery, the diseases of women and children, and Medical Jurisprudence, need not be recorded, because it may be found in the books. In the last century, when the practice of publishing every thing, did not prevail, as in the present age, the necessity of making notes was much greater. There is a value, however, in this labor, distinct from the manuscript information of which it puts the student in possession. It in some degree, secures and sustains his attention, and the extension and filling out of his notes, at his room, is a valuable exercise, leading to a kind of intellectual rumination, and favoring advancement in the important art of composition. Students, however, who can command their attention, and have retentive memories, would do well to write down but little, till they retire; when they should record such facts and principles, as appear to be original or of great practical utility. In the perception of these, more, perhaps, than in any thing else, will the discriminating or *instinctive* sagacity of the pupil, manifest itself. As students who write in the lecture room, can only record a part of what is said, they should exercise a quick, and, in loose phraseology, an intuitive judgment, as to what especially deserves to be recorded; otherwise, in labouring upon

the common-place, the new and valuable may entirely escape their attention.

All the reading of the student, during the session, should have a reference to the lectures. He will find time for no other, if he properly study the great variety of topics, which will be daily presented to his attention. In the prosecution of these, reading will be of essential service, as connecting, in his mind, the information received through two senses, and from at least two teachers—the lecturer and the author. They will be made to rectify and illustrate each other, and the curiosity to see how far the former is indebted to, or surpasses, the latter, will prove a beneficial stimulus.

Conversation and examining clubs, are productive of much advantage, provided they are conducted with order—that is, by fixed laws: if not, they are worse than useless, as attracting the student from solitary study.

Practical Anatomy should engage the attention of every pupil. In a country where all physicians must, to a greater or less extent, be operative surgeons, every candidate for the profession should learn the use of the scalpel; and work his way, for once at least, through the intricate fibres of the human body. Having seen, and with his own hands separated the parts from each other, their forms and relations will be well understood, and remembered for a much longer period. Moreover, unforeseen events, or the developement of a new taste, may at length incite him, who was, originally, disinclined to the practice of surgery in its higher operations, to turn his attention to that elevated department of the profession, when he will find great difficulties to encounter, unless, while a student, he acquires a facility in the use of the knife and scissors, together with a sound knowledge of the anatomy of those parts, which are the chief seats of the greater operations.

As to the number of courses, I would say, that all students who have adequate pecuniary means, should attend three, before they graduate; and the second, if convenient, should be in a different institution, from the first and third, which

should be in the same. I know from personal observation, that a great number of students graduate, prematurely; that is, without the extent and maturity of knowledge, which fits them for safe and efficient practice. It is a point of honor to graduate at the end of the second course, but the ambition of a student *should* be, to graduate *with honor*, rather than within a *given time*. Relaxation in elementary studies, is, commonly, the first effect of graduation; and he who is imperfect then, generally remains imperfect throughout life.

Almost all candidates have more or less perplexity on the subject of their inaugural dissertations. This arises in a great degree from delay. The summer preceding the last course of lectures, is the time, when the thesis ought to be prepared; but the majority postpone it till the midst of the second session, when its composition is attended with numerous difficulties; and sometimes keeps the candidate from the lecture room for many days, when his anxiety to be in regular attendance and prepare for his examination, is, generally, greater than at any preceding period. Such are the unsavoury fruits of procrastination.

Finally, students when in attendance on lectures, should look carefully to the preservation of their health. The new causes which may impair it, are, first, a more inactive and sedentary life; secondly, a fuller and more stimulating diet, than most of them have been accustomed to at home; thirdly, a change in the hours of eating, especially, breakfast and dinner, both of them being too late—the former for an obvious reason, the latter, because, the appetite becomes importunate, and leads to gastric repletion; fourthly, in many cases, abridgment of the hours of sleep; fifthly, intense and perplexing application of mind; sixthly, crowded and badly ventilated lodging rooms; finally, dissipated pleasures, into which they are too often seduced by the allurements of great cities, the common and most proper sites for medical institutions. From the operation of these, and other causes, the health of medical students, during the session, is exceedingly apt to become impaired. The maladies to which they

are most liable are constipation, hepatic torpor and engorgement, dyspepsia, headache, chronic ophthalmia, palpitation of the heart, hypochondriasm, *ennui*, jactitation, fidgets, and other forms of nervous irritation. With any of these maladies upon him, the student will make but sorry progress; most of them, however, might be prevented, by temperance, exercise in the open air, and general regularity of life and conduct.

I shall here offer a summary view of the *desiderata* which our medical institutions seem to me to present; and shall make no other apology for the repetition it may involve, than the great importance of the subject.

1. An increase of the length of our sessions to at least five months. This could readily be effected, by a simultaneous resolution of the more popular and frequented institutions, in which our venerable *Alma Mater*, the university of Pennsylvania, ought, in justice to her age and relative rank, to take the lead.

2. An augmentation of the number of professors to at least seven, with a general refusal to recognize schools that have not more than four or five.

3. The election of professors for five or seven years, instead of an indefinite time; with the general understanding, that a re-election would in all cases take place, if the incumbent had acquitted himself with zeal and competent ability. If pupils were not compelled to take all the tickets twice, dull and unskilful professors would be neglected, and might at length, resign. But, as in nearly all our schools, the pupils are required, at each session, to purchase the whole of the tickets, the strong professors are made to sustain the weak, who of course do not resign, but clog the institution, impede its progress, and depress the standard of excellence. Septennial elections might prove a corrective to these evils, though I am not prepared to say, that a better could not be devised.

4. Students should not be allowed credit for a course, unless they matriculated by the end of the first week of the

didactic lectures, and then remained to the end of the session.

5. At least four years should elapse, from the commencement of the pupil's studies, until his graduation.

6. He should be required to show that he is twenty-one years old.

7. Increased attention should be paid to the preparatory or academical attainments of candidates.

8. The examinations for a degree should be more searching than they are generally made. This, it is true, would diminish the amount of graduation fees received by professors, but the public would be gainers.

9. Every candidate should be required to publish his thesis; and a premium should be awarded to the author of the ablest of these productions.

10. Summer lectures, especially on the collateral and auxiliary sciences, ought to be encouraged, and the candidate should be required to have some knowledge of those branches.

11. A stricter regard should be had to the moral character of candidates, who should never be admitted to examination, until they had deposited with the dean, satisfactory evidences of good reputation.

12. Lastly, as a means of promoting this object, and of advancing the respectability of the profession, there should be, in every medical school, a series of Sunday morning discourses, by one of the professors, on the *morale* of the profession, and the virtues and vices of medical men, embracing their duties to their patients, and a system of medical ethics.

A strict attention to these different points, could not fail to improve the condition of our schools, and elevate the character of the American profession.

I shall conclude with a few hints to professors, on the means of making their prelections interesting and instructive.

A dull lecture is a great evil. Politeness may reconcile the majority of a class to such a lecture, but it falls dead-born from the lip of the professor. To listen, day after day,

for several hours, through four months, even to animated speakers, is a serious undertaking; but to sit, from hour to hour, beneath those, who,

‘Through the long, heavy, painful page, drawl on,’

is intolerable to all, who have not a facility in resorting to early and sound sleep; the usual and best resource, under such a calamity. As instruction is the object of all medical lectures, the end for which they were instituted will not be attained, if the attention of the class be not kept in activity. The moment it flags, improvement is at an end, and the professor had better fold up his manuscript, and permit the pupils to return to their chambers. There is an eloquence of the lecture room, as well as of the Bar and Pulpit, which every professor should attain, or feel himself in duty bound to resign, so as not to exclude a competent man. A commanding knowledge of the subject, is an indispensable prerequisite; but earnestness and animation of manner, are of equal importance; for without them, the profoundest learning and the acutest logic, are of no avail. At first, they may fix the attention, but, unaided by the arts of oratory, their power is soon lost, even upon the inquisitive and the resolute; while the remainder, *pars major*, neither hear nor think.

The faculty of awakening and sustaining the attention of an audience, is, in some degree, a gift of nature, and may be wanting, when other requisites are not. An original or eccentric manner, is often the secret of success; illustration by means of anecdotes, skillfully introduced, produces the same effect; episodes may be so managed as to answer the purpose; flights of fancy, if well timed, will accomplish the end in view; while, in the absence of a talent for the whole of these, unexpected and pertinent questions, with familiar, conversational remarks, on the answers that may be given, will resuscitate the drooping energies of the class, and enable them to hold out to the end. Professors who speak *ex tempore*, have, in this respect, a great advantage over those, who read manuscripts, for the speaker *must* think, while the

reader *need* not; and the class will generally follow their example. It has been objected to extemporaneous lectures, that they are apt to be repetitions, and deficient in method. Precision and arrangement, however, depend more on the mind of the teacher, than the circumstances under which his lectures are delivered. But in sciences so imperfect as most of those taught in our medical schools, a natural arrangement is not practicable; and extreme attention to method, is often prejudicial, as it leads to assumptions, and the introduction of dubious facts, to eke out in argument, which, in the present state of the profession, should be left defective. Written lectures, moreover, are not easily altered, and when once finished, are apt to be kept nearly in their original condition. Thus, what might have been as perfect, at first, as the state of the science permitted, is soon left behind, in the march of improvement; while the annual repetition of the same *formula* of words, diminishes the simplicity and force with which it is pronounced;

‘And every year grows duller than the last.’

ESSAY IV.

STUDIES, DUTIES, AND INTERESTS OF YOUNG PHYSICIANS.

A diploma constitutes the great object of ambition with every student of medicine. This being acquired, he feels disposed to relax in his efforts; and enjoy his new dignity. In the opinion of his teachers, and, of course, of himself, he is qualified for the practical duties of the profession; and a happy feeling of self complacency, sometimes of self-sufficiency, springs up. He is no longer a pupil, but a physician—walks on a higher level—is surrounded by new associates—and either turns his thoughts towards new objects, or to none at all.

The length of this period, varies with the temper and necessities of each individual. If voluntarily prolonged, the omen is decidedly bad. It indicates a want of ambition, of industry, of conscientiousness, or of the *amor scientiæ*. I am grieved to say, that too many of our young physicians, are deficient in one or more of these important elements of future eminence; and through life, prefer to vegetate in the lower walks of the profession, when they might ascend and flourish in its higher regions.

The young man of merit regards a diploma, as only one of the series of honors which lie within his grasp. He stops to breathe, but still remembers that he has passed through his novitiate only; and must speedily resume the labors by which alone he can hope to reach the highest honors of the profession. Many desire, even resolve, to be distinguished, but neglect to employ the proper means. Aware of the necessity of study, they intend to recommence it; but put off the day of renewed labor, till it is too late. Habits of idleness are formed; the allurements of society establish their fascination; examples of partial or temporary success in the

acquisition of *business*, without an attention to studies, unfortunately surround and encourage them; the ignorance and credulity of the world, disclose to them the possibility of acquiring, without deserving its confidence; hard study begins to appear less indispensable, and more repulsive; their noble resolves are forgotten—their destiny becomes fixed, and a humble one it is. Such are the course and terminations of a majority of those who are put to the study of medicine in the United States.

The physician who neglects his studies for the few first years after graduation, will seldom resume them. In many respects, this is one of the most important periods of his whole life. The omissions of youth may be supplied—those of manhood are fatal to our prospects, in proportion to their number and magnitude.

The young physician is not aware how soon his elementary knowledge—much of which is historical and descriptive, rather than philosophical—will fade from his mind, when he ceases to study. That which he possesses, can only be retained by new additions. He cannot remain stationary; the moment he ceases to acquire, he loses; and this is true, not merely of professional, but of classical and general knowledge, as I have warned him in a previous essay.

Hence, every young physician, should devote a stated portion of time to the branches of learning which engaged (or should have engaged) his attention, before he began the study of medicine. By doing this, he would, if previously well taught, soon make himself an able and accurate scholar; or, having been denied the advantage of early opportunities, he might supply many deficiencies, and save himself from gross illiterateness. It is *this* ignorance, still more than defective professional attainment, that constitutes the difference between the physicians of America and Europe. It perpetuates itself, because the *majority* of us, being in the same condition, are disposed, mutually, to sustain each other against the contempt of sound scholarship.

It is equally necessary for the young physician to review his professional studies, especially his Anatomy. Should it once glide from him, the substratum of his Surgery, Physiology, and Pathology, is gone. To prevent this, he should study it in connexion with these important branches, and unite the whole into one system; by which only, can it be retained, or they illustrated. But he must not merely review, he must *extend* his professional studies. Previous to graduation, the most industrious student can study but a small part of the books, which are current in the profession. He has had before him but a few specimens in each department—a large portion remain to be studied. In this duty he should proceed with method; and I will mention two principles which should govern him:—First, he ought successively to undertake the study of particular diseases, or groups of diseases, and seek, in all the books consecutively, for what relates to them. In this manner, he will form his own monographs. Secondly, when actual cases of disease present themselves, he should read whatever may be within his reach in reference to them. Such readings are more profitable than any others, because the motives which prompt him, sustain his attention and invigorate his understanding.

The same is the appropriate period, for the study of retrospective medical literature. But few of the works of past ages should be put into the hands of an under graduate; but no physician should regard his education as in any degree complete, until he has read the writings of most of the great observers, and original geniuses, who have adorned the profession in different ages. He will thus trace up established principles, through all their modifications, to their sources, perhaps in a remote antiquity. He will, at every step, amass important but neglected facts. He will be taught how to think. Finally, his mind will be enlarged and liberalized, by an acquaintance with the revolutions which the science has undergone.

The auxiliary sciences should claim the attention of the young physician. The most important of these, are, comparative Anatomy, Zoology, Botany, Mineralogy, and Meteorology; all of which, he will soon discover, have many interesting relations with the profession. With the utmost assiduity, he cannot, in the course of a three years' medical pupilage, acquire even the rudiments of these collateral sciences; and if he postpone the study of them till he has acquired professional business, he will have but little time to devote to their elements, although many opportunities must offer in the midst of business for reducing such knowledge to practice.

I would be superfluous, to say more on the subject of study, in the first years of professional life. To regard that period as one of admissible leisure, argues either a pitiable ignorance of the extended limits of the medical profession, or a culpable disregard for its weighty and dignified responsibilities.

This is especially true, of country practitioners; who would find their time on distant visits, profitably occupied, in observing and collecting the natural productions of the district of country in which they reside; and, over which, most of them continue to travel for years, in utter ignorance of the interesting objects which it presents. By a very moderate attention to Botany and Mineralogy, the country physician, without the smallest neglect of his professional duties, would, in a short time become well acquainted with the plants and minerals of his vicinity; and might thus make important contributions to the natural history of his country, while the *tedium* of his solitary rides would be effectually obviated.

The young physician should write as well as read. He should study with his common-place book by his side, especially when engaged in works which he does not expect to peruse a second time—and make to them such references, or, from them such extracts, or, of them such abridgements, as may seem advantageous. It is a most useful exercise, to

abridge and re-write such parts of the greater authors, as relate to some interesting subject, and place them in *juxtaposition*, for the purpose of comparison or contrast. He should sometimes epitomize entire works, for the mere value of the exercise in professional composition; and to the same end translate, largely, from all the languages he may cultivate. He ought carefully to record his own observations and experiments; not in a diffuse and inaccurate style, but with precision and perspicuity. He should from time to time write essays and dissertations on speculative topics, and at subsequent periods subject them to a rigid criticism. By these various exercises, he will, at length, acquire a habit of expressing himself with facility and clearness, if he should never attain to elegance; while these repeated attempts at arranging and connecting facts, will have strengthened his reasoning powers, and given him habits of method. It is lamentable to see how few of us write well, that is, with simplicity, conciseness and purity. The fault lies quite as much in the neglect of practice in composition, as in the want of previous education. Neither will do alone; but of the two, the former is, perhaps, the more injurious.

Young physicians should write much but publish little. Every good composition is not worthy of being read. It is easy to make new digests of common facts, in the form of essays and dissertations; or to report new cases, which differ in no essential point from those with which the books are already crowded. Such contributions swell, without enriching the archives of the profession. Every new arrangement of facts, should establish or subvert some principle, or rule of practice; and every reported case, should present, at least, one point of novelty. In reference to style, the *desideratum* of the former, is method—of the latter, brevity; and without these requisites, neither will be read with pleasure, whatever may be the value of the materials.

Inexperienced physicians should avail themselves of every opportunity, to reduce their theoretical knowledge to practice. They must never wait for select cases, nor shrink from

a professional duty, however repulsive. Every young physician must expect to begin his career among the poor. Society attaches great importance to experience; and those who can command the services of one who has had practice, will not confide in a novice, whatever may be his genius or attainments.

The epoch of professional life now under consideration, is the time to perfect those habits of observation, which begin in our pupilage. Every clinical case ought to be a study, and nothing connected with it should be overlooked. I never knew a skilful practitioner who was not an acute observer. Whatever may be a physician's judgment, he should not be confided in, if obtuse in his powers of observation. To arrive at correct results, the first and greatest requisite, is to have correct *data*; which can only be acquired by accurate and patient observation.

It is a prevailing opinion, that a physician should marry young. The beneficial influence of this step on the business of a young physician, is I think overrated. I have seen many acquire a respectable practice before marriage; and others fail in that particular, although they married early. A compliance with the maxim has, moreover, often led to a premature settlement of this kind, and done irreparable injury to the individual, by augmenting his expenses beyond his slender income; thus multiplying his cares and anxieties, so as greatly to abridge and distract his hours of professional study. On the whole, however, it is necessary and proper for a physician to marry, as early as prudence will justify; for, to a certain extent, it *does* promote the acquisition of business; while it prevents the formation of habits of *solitary* study, which he cannot afterwards change. I look upon such habits, in a country where the domestic relations are so generally cherished in the United States, as exceedingly detrimental to the cultivation of the profession. The physician who cannot study in the bosom of his family, and amidst the interruptions produced by domestic duties and professional labors, must neglect either one or the other.

Early marriage, before the establishment of fixed habits of secluded study, will, in general, save a professional man from this unfortunate dilemma. If he begin, in due time, to read and write, at the family fire-side, he will daily devote many hours to both, that would otherwise be entirely lost; and thus be made, not only a better physician, but a better husband and father.

The same period of life, is that in which a physician is to form his manners, or rather his *manner*. In no vocation is manner more influential. Many young physicians have acquired popularity, by the mere force of manner, while others, of equal or greater professional skill, from the same cause, have never become favorites with the public. For such cases I can offer no infallible *recipe*. Dignity, tenderness, and modesty, would seem to be appropriate elements in the deportment of a young physician, whatever may be their effect on the people. They may not inspire confidence in the vulgar, in comparison with impudence and garrulity; but, sooner or later, their influence will be felt and acknowledged. It must, however, be admitted, that public favor is not always the meed of unexceptionable manners, even when sustained by competent skill.

In these instances, however, there is, generally, in the midst of prevailing excellences, some particular defect. For example, the individual may be deficient in *tact*; or wanting in attention and earnestness—a defect, which, more than most others, will retard the acquisition of business. Nothing captivates the friends of a sick person so much, as an earnest and anxious manner on the part of the physician. None are insensible to such a manner, while many will receive it as a substitute both for skill and social refinement.

But of all the extraneous aids to the acquisition of business, some *peculiarity* of manner is, perhaps, the most efficient. Should it even border on the absurd or the ridiculous, it is still in the opinion of the people, an indication of genius, and seldom fails to secure their confidence. To be effective, however, it must be natural, not assumed, as affect-

ation is with difficulty concealed, and its discovery of course, brings contempt.

One of the first questions which perplexes a young man after his graduation, is the choice of a residence. He should, if possible, place himself within the pale of good, that is, of intelligent society. In any other situation, both his mind and manners will degenerate. His companionship should be with the enlightened and refined of both sexes; for his character is to be formed, and should be modelled after good examples. It is not important that he should remain permanently in his first locality. He should not leave it, however, till he has passed through a period of probation, and acquired a competent amount of practical knowledge. He may then remove to a more extended theatre of action, where he ought to spend his life. If he have commenced within the precincts of such a situation, he should hold on till he acquires public confidence, however slow it may seem to be in coming. Not unfrequently this is a protracted period, and abounds in anxieties, hopes and fears, impatience, and hypochondriacism. Under these feelings, the young physician too often resolves on a change of residence; and, at the moment, when he is on the eve of acquiring business, transfers himself to another town, where, being a stranger, he is doomed to a second probation. Such removals, several times repeated, have proved fatal to the prospects of many, who, remaining patiently in one situation, would have found it productive of all they could desire.

Nearly connected in its nature and consequences, with this subject, is an attention to some other business, than that which is professional. In some instances the young physician relinquishes his profession, determining to resume it after a time; but, oftener, he attaches to it, some other pursuit, which is, generally, that of an apothecary. Both experiments are dangerous, and too often lead to the destruction of all professional prospects. It is far better for a young practitioner, however straitened may be his circumstances, to struggle on, with professional distinction exclusively in

view; and the attention of the public directed to him as a physician and surgeon only. Society is not disposed to admire or regard a man, in more than one character; and all who are candidates for public patronage, should present themselves in the character which they are most anxious to sustain. A young physician, moreover, is, in general, not qualified for any business but that of his profession; and incurs the risk of pecuniary embarrassments, whenever he attempts a vocation, to which he has not been educated. And this leads me to warn the young physician against contracting debts and liabilities. The young merchant may contract debts with propriety and advantage. His character for punctuality is a part of his capital, and should be used; but the only capital of a young physician is his reputation for professional learning, diligence, and fidelity. On this character he should place his sole reliance. All his efforts should be directed to its establishment; and whatever can interfere, with this important and difficult object, should be studiously avoided.

He who relies on his earnings for support, will be led, not only to practice economy, but to keep his accounts with accuracy, and to attend carefully to the collection of his debts,—habits that will exert a beneficial influence on his character and happiness throughout life.

I am aware, that much of what is contained in this essay, will be regarded as common place; but I cannot admit, that it is not ultimately connected with the dignity of the profession, and the prosperity of its members. The former, indeed, can only result from the latter. Hence all who desire the advancement of the profession, should labor to render those who practice it, respectable in all their relations to society. In proportion as this is accomplished, will the profession exert that influence to which it may justly aspire.

ESSAY V.

CAUSES OF ERROR IN THE MEDICAL AND PHYSICAL SCIENCES.*

The Causes which prevent the discovery of TRUTH in the Medical and Physical Sciences, are too numerous to be embraced in a single essay; while many of them are too much concealed, to be brought to light, by any but a man of genius and extensive observation. Those of which I propose to treat, are common, and, therefore, susceptible of being exposed.

THE FIRST OF THESE, IS THE DISPROPORTION BETWEEN THE STRENGTH AND GRASP OF OUR INTELLECTUAL FACULTIES, AND THE NUMBER AND VARIETY OF OBJECTS UPON WHICH THEY ARE TO BE EXERCISED.

In styling himself 'lord of the creation,' man has, perhaps, consulted his pride more than his powers. Certain it is, that he is not less dependent on the other objects of creation, than they are on him. These objects, either animate or inanimate, are, to him, absolutely innumerable—they touch

*This Essay embraces the substance of a public introductory lecture, which will account for its declamatory style.

him on every side, and stretch from him indefinitely in all directions. Their relations with him and with each other, are never the same for two successive moments;—for the group which *now* surrounds him, will soon surround him *no more*; and while he yet contemplates it, changes of composition and character have taken place, which he could neither foresee nor prevent. Even individual objects confound him; and when actually in the focus of his physical or intellectual vision, undergo transformations, which surpass his comprehension, and teach him lessons of wisdom and humility. Suppose that all his observations were correct—would this enable him to arrive at philosophical truth? It would not,—unless those observations were extended to all the individual qualities and relations of every object requiring examination. In constructing a system of science, it is not merely necessary to have no *bad* materials, but an adequate number of *good* ones. *Ignorance* is said to be better than *error*; but this adage refers chiefly to the condition of the mind in regard to further improvement; for, in establishing a system of science, ignorance and error are perhaps, equally unpropitious.

Nature, moreover, is not only too *unlimited* in the number of her objects, but their structure and functions are too complicated to be studied without mistake. The very ‘clods of the valley’ present to the philosopher, in their composition, a problem which he cannot undertake to solve without error,—the grass, which he tramples under foot, when he stoops to examine it, offers appearances which he can neither understand nor report with accuracy—while his own body—an assemblage of intricate organs, mysteriously united, and harmoniously acting and re-acting on each other, from a principle of motion equally mysteriously, presents him with a case, in which the utmost exertion of his powers of observation and reflection, will not secure him from false conclusions. If such be the inefficiency of genius, how deplorable must be the failures of imbecility:—let dulness, then inquire with anxiety, and publish in doubt and hesitation.

ANOTHER REASON WHY WE SLOWLY ARRIVE AT PHILOSOPHICAL TRUTH, IS THAT WE SEEK IT WITHOUT DUE PREPARATION.

The chemist who attempts the analysis of compounds, without having previously studied the laws of affinity, prosecutes and ends his labors in error; while the pharmacopolist who alters the formulæ and recipes of the profession, without a previous knowledge of practical Chemistry, decomposes and adulterates what he seeks to improve. In the science of *Materia Medica*, the man who expects to advance our therapeutick knowledge, without a previous acquaintance with the nature and chemical history of medicines, and their *modus operandi* on the body in *health*, falls into an error almost as great, as if he were to rely exclusively on that *preliminary* knowledge, to direct him as to their *curative* powers, which can only be known by the additional labor of administering them to the sick, and registering their effects. The operative surgeon who omits the cultivation of surgical anatomy, necessarily commits ravages upon those whom he undertakes and anxiously desires to relieve. Finally, the physician who aims at a knowledge of pathology, without first devoting himself to the study of the animal economy, and frames his rules of practice in his own office, instead of the chambers of the sick, may labor with diligence but will never command success. His conclusions, although not always wrong, cannot often be correct. His prescriptions are like gilded pills of noxious qualities, in which the poison is concealed from the eye, but works desolation and death in the unfortunate patient.

In all these cases, and many others that might be cited, the cause of error, is a violation of the rule of philosophising, which commands us to 'proceed from the known to the unknown.' It is not a deficiency of object, of time, of means or of intellect, that precludes the attainment of truth, but a neglect of due preparation, a presumptuous disregard of things that lie near, for those which are more remote; but which,

when examined cannot be understood, because they have been prematurely reached.

THE NEXT CAUSE OF FAILURE IN THE PURSUIT OF PHILOSOPHICAL TRUTH, IS MORE DEEPLY ROOTED. IT CONSISTS NOT SO MUCH IN THE DEFICIENCIES, AS THE ERRORS OF EARLY EDUCATION.

From the very nature of our associations in infancy and childhood, much of what we learn is erroneous; and throughout the whole period of our studies, except when engaged in the exact sciences, we daily imbibe falsehood with truth; and, unconscious of the combination, retain the whole under the name of knowledge. The tenacity with which the mind clings to these false impressions, is often not less, than the facility with which, in early life, it receives them; and as they exclude an equal portion of real knowledge, and vitiate all our conclusions, their influence cannot be too strongly deprecated. It becomes both pupils and physicians, frequently to review their past studies, and anxiously to inquire into the circumstances under which their knowledge was acquired. By such retrospection, carefully and humbly made, they will often be able to detect the occasion, or the *dictum*, which led them into error, and thus purify and fit their minds for the reception of new truths.

ANOTHER IMPEDIMENT TO THE ACQUISITION OF TRUTH, IS FICKLENESS OF ATTENTION.

Childhood is the epoch of mutability, in which impressions rapidly succeed and supersede each other. Children do not dwell long enough on any object, or group of objects, to acquire correct and ascertained ideas of their properties and relations, and hence they investigate badly. This propensity to pass from subject to subject, is a principle of our nature; and is designed to introduce us to a first interview

with the multitude of surrounding objects, with which it is the business of after life to become more intimately acquainted. But like every other principle of action, it requires controul and discipline. Appertaining, as we have seen, especially to childhood and youth, it belongs to a good education, to keep it subordinate in manhood. Those in whom this is neglected, grow up deficient in habits of protracted investigation, and seldom dwell long enough on any subject, to comprehend it fully. Such persons may be styled adult children, and the number is not a few. Gazing for a moment on the superficies of many objects, but looking into the deep structure of none, they seldom perceive the truth, as in most cases, it lies far beneath the surface.

ANOTHER CAUSE OF ERROR CONSISTS IN FORMING CONCLUSIONS, WHILE WE SHOULD STILL BE OBSERVING.

Persons of this intellectual temperament may see deeply, but they look in one direction only; and of course form an opinion, before all the facts in relation to the case, have been reviewed. They might be compared to the judge, who decides on the testimony of one of the parties, unconscious that another waits for an audience. The judgment may be honest, and a correct inference from the facts before him, but still it is wrong. Many of the errors which vitiate the experimental sciences, as well as the affairs of social life, are referable to this head; and as the authors of them are conscious, not only of loving truth but think they have investigated their premises warily, it is not uncommon to see them cling with pertinacity to their conclusions. A singularity exhibited by such persons is, that at different times, they are the honest advocates of opposite opinions. The facts, which at one period were presented to them and led to a particular inference, are forgotten; and, subsequently, those of an adverse tendency are casually offered to their notice, when with equal honesty and promptness, they stand

forth as the champions of a contrary doctrine. The fault of this character, consists in imperfect and limited suggestion—a sort of intellectual *strabismus* or squinting—by which the fields of mental vision is narrowed, and the partial mistaken for the universal. The opinions of such men are entitled to respect for their sincerity, but not to adoption for their soundness. They may be true, but should always be presumed erroneous. The proper remedy, is a constant recurrence to protracted and comprehensive research; that all the facts in the case may be fully represented in the deduction—when this is realized the judgment is true, and then only.

THE NEXT OBSTACLE TO THE DISCOVERY OF TRUTH, IS VIVIDNESS OF FANCY.

Many cases of madness have seemed to grow out of this exuberance. It tends to abstract us from external objects, and causes inattention to the impressions which they make, or might make upon us. Such philosophical fanatics, require but a glimpse, to afford them, as they believe, an accurate knowledge of the properties and relations of the most complicated group of objects. Their senses do not resemble a camera obscura so much as a magic lantern. A single sensation can spring a long train of ideas; and cause new creations to succeed each other, like the spectres in that machine, and generally with as little conformity to truth and nature. Philosophers of this excessive mobility, are right only by accident, and it is equally accidental, if they discover themselves to be wrong. They do not so often change from error to truth, as from one illusion to another. They suppose themselves men of genius, when, in fact, they are endowed with but one of its attributes. They are great builders of hypothesis, but all their pyramids are inverted. They never investigate closely, but to sustain a pre-conceived notion, and then instinctively reject every fact which

militates against it. Their ardor and obstinacy are often so great, as to inspire confidence in their opinions, and make proselytes of those who should labor to expel their delusion, and bring them back to the sober realities of the external world. Such an enterprize, would, however, in most cases, prove ineffectual; and hence students and young physicians, should guard vigilantly against the earliest illusions of this *ignis fatuus* of the mind. If it once attract them from the straight and narrow path of inductive philosophy, their faculties will speedily glide into the mazes of error; and, if practitioners, their prescriptions will become sentences of death, instead of warrants of health and life.

THE NEXT OBSTACLE TO THE DISCOVERY OF TRUTH, IS IMPATIENCE.

Patience, which is not a greater virtue in morals than in science, has been brought into disrepute, chiefly by the sect of philosophers which I have just described; if they indeed, can be called a sect, who unfortunately are never embodied, but contaminate all others. It is difficult to bring patience into favor and fashion. Being very commonly an attribute of inquisitive dullness, many young men of lively feelings, have not courage to practise it, lest they should be suspected of belonging to that class, in which no human being ever yet enrolled himself without a struggle. The highest eulogy that could be pronounced upon patience in research, is that it constitutes the great secret of that success, which men of inferior talent so often attain. It *must*, therefore, be a powerful auxiliary, and why should any man reject its assistance? To say that strength of intellect can render it unnecessary, is not true, unless that intellect be employed upon inferior objects; and genius should condescend to dispute with stupidity, for the subjects which legitimately belong to the latter. In his own elevated sphere, the ablest philosopher will find patience essential to the developement of

truth. Nature is not an oracle of Delphi, to be bribed or flattered into responses. Her severe majesty requires that she should be interrogated patiently, and listened to with meekness; and even when thus besought, her replies may not always be as prompt and explicit as we could desire; but they will neither be interested nor erroneous.

At the risk of being found tedious, I must appropriate some additional paragraphs to this part of our subject. There are students and physicians, intrinsically industrious and patient in the exercise of their *mental* powers, who, nevertheless, have a fastidiousness in regard to manual labor, especially what is unpleasant, which materially interferes with the discovery of truth, in their own and its auxiliary sciences. Let us pause for a moment, and, notwithstanding the enumerations in our previous essays, inquire what they are: Anatomy and Physiology, Surgery, Clinical Medicine and Materia Medica, Chemistry and Pharmacy, Zoology, Botany and Mineralogy, Physical Geography, Geology, Pneumatics, Hydrostatics, Meteorology, Astronomy, Mechanics, and the Chemical, Mechanical, and Fine Arts, are, in fact, but a part of them. Physical science is, indeed, the science of material nature, and comprehends as its own proper objects, not only the globe, and every thing living and dead, within its bowels or spread over its surface, with all which constitute or inhabit its atmosphere; but, also, the boundless system of celestial orbs, which, as suns, and planets, and satellites, and comets, enliven the dark and dreary regions of infinite space. Now, let us place before ourselves, an imaginary picture of the objects to which I have referred, and then contemplate their number, varieties and analogies, their relative positions, their individual properties, their varied uses, their attractions and repulsions, their dependencies on each other, and the influence which man exerts on them and they on him, and we shall be prepared to estimate the value of our remaining attainments, if an acquaintance with the forms and qualities of matter were expunged from our minds. But this would be impossible, for material na-

ture is the foundation of all our knowledge, and in proportion as we neglect its study, science becomes uncertain and unsubstantial—speculation supersedes experiment—hypothesis replaces theory—and syllogisms usurp the office of induction.

Our proper business, then, is the study of material objects, and these must be examined by our organs of sense, to be rightly understood. If this examination be reluctant and superficial, the results will of course be imperfect. If we come to it in a temper of fastidiousness, and shrink from the necessary exertion, because we may have been unused to manual labor, or some parts of that which should be done are unpleasant or repulsive, we shall seldom grasp the truth. If we suppose, that not having been compelled to labor for subsistence, but, nursed in the lap of wealth and luxury, we may leave the drudgery of science, to hands already soiled in the field or hardened in the work shop, we shall, at last, be disappointed in our dearest hopes; and mortified to see those whom habits of toil and application, have prepared to vanquish every difficulty, stretch immeasurably beyond us, in the race of emulation and professional fame. In the pursuit of physical truth, an examination of the objects of nature, is the first and greatest work; and he who brings to it the best manual dexterity, the greatest self-dependence, and most untiring industry, with the fullest command of his feelings, in relation to scenes and objects, which are often offensive and sometimes loathsome, will, *cæteris paribus*, be most successful in his researches. It is a prevalent and pernicious error, that the labors of the devotee of physical science, are chiefly intellectual; or that we may view nature from select positions, and acquire all the necessary knowledge, by perspective views. A much closer intimacy, is requisite to a full acquaintance. If we read the biography of the greatest men, who have adorned the profession or dignified the ranks of physical science, we shall find them almost as remarkable for their labors of body as of mind. The former, directed to the objects of their ambition, sup-

plied the *pabulum*, by which the latter was cherished. Such is the order of nature, and no student or physician, who prizes truth or reputation, should ever depart from it.

PRIDE IS A STUBBORN OBSTACLE TO THE DISCOVERY AND RECEPTION OF TRUTH.

Meekness of spirit, is scarcely a more necessary predisposition for the reception of divine, than scientific truth. The self-sufficient philosopher, never enquires into his defects. When he contemplates himself, it is rather to admire his excellences than to correct his imperfections. He views the former with a mote, the latter with a beam in his 'mind's eye.' He employs a mirror, which reflects only the beauties of his character; and should it, at any time, become true to nature, he turns from the unwelcome glimpse of his deformities, as from things to be concealed and forgotten, not corrected. To expose them to society would mortify him still more. He is even reluctant to display his improvements, as they would imply previous defects of knowledge, and approximate him to mortals of a common mould. A student of this class, often prefers to remain ignorant, rather than appear so; but it is, especially in advanced life, that pride interferes most fatally with improvement in science. In youth, vanity sometimes tempers this indomitable passion; but in process of time, it not unfrequently subdues every opposing sentiment, and, becoming fortified by habit, governs the character of the individual, with the spirit of a tyrant. Hence the obstinate perseverance in ancient errors, the cynical sneering at late discoveries, the dogmatism, the pomp and the real or affected scepticism, which in medicine, so often render old age ridiculous, and sometimes, seriously impede the dissemination of new truths. I know of no cure for this *fungus hematodes* of the mind, when it has become deeply rooted, but in youth it may be eradicated, and every student should seek to cast it out.

EXCESSIVE DEFERENCE FOR AUTHORITY—IN SOME DEGREE THE OPPOSITE OF PRIDE—CONTRIBUTES EQUALLY TO THE PERPETUATION OF ERROR.

An overweening regard for authority in the sciences, is the offspring, either of a slender understanding or a timid spirit, still further enfeebled by bad education. It shows itself, not merely in an unsuspicious assent to alledged facts—a pardonable credulity—but in an implicit adoption of the conclusions of eminent men, when we should examine for ourselves, both their premises and reasonings. The latter species of intellectual servility, has done much harm to the profession, and through it to society at large. In general, we are under the necessity of receiving as true, that which the archives of medicine present to us as fact; for it is impossible to repeat every experiment, and many observations can never be made a second time, because the same combination of circumstances may not recur; but nothing should be taken on trust, when it can be avoided; as that which is reported correctly, may have been seen incorrectly, and the professions of truth with which a subject is introduced, may be designed by the author, to protect it from suspicion. But the *reasonings* of an author, a professor or a colleague, are legitimate subjects of scrutiny, and he who passes timidly over them, admits an inferiority, which fearless investigation might convince him, did not exist. He becomes the slave of opinions, instead of the servant of truth; and contributes not more to the diffusion of falsehood, than to the degradation of his own character. As the opinions of great men, have the widest circulation, and receive the most implicit adoption, it becomes all who can be incited to the duty of examining what they are about to receive, to subject those of eminent writers, to a carefuller criticism, than is necessary for the speculations of authors of lower powers and more limited fame. If this had been always done, the genius which has been devoted to the profession, must have carried it far beyond its present elevation.

A DEFECTIVE LOVE OF TRUTH, IS ANOTHER CAUSE OF ERROR IN THE PROFESSION.

The love of truth, although an original principle of human nature, has various degrees of native energy; and from the operation of several causes, may decline, till we come to look upon error with complacency, and at last not only tolerate, but publish falsehood. Very few principles of our nature, are, indeed, beset with so many causes of corruption. I will name but two—self-interest and self-love. The combined influence of these, on the love and practice of truth, in morals and society at large, is seen and admitted by all; and it is equally great in the medical sciences, where, although less deprecated, it is perhaps still more mischievous. Self-interest and self-love; it is true, sometimes animate us in the pursuit of truth; but it is only when reward awaits its attainment, or disadvantage or disgrace would flow from failing to reach it. Unhappily for the interests and dignity of human nature, such cases are few in number; and, hence, these restless and unwearied principles of selfishness, are more seldom enlisted in the service of truth than falsehood. While students, it is uncomfortable to feel, and sometimes mortifying to acknowledge, that we do not fully comprehend a subject; and, strange as it may seem, we, now and then, so far compromise with the love of truth, as to pretend, and, perhaps, sometimes almost believe, that we are less ignorant, than is the fact. After having passed through our pupilage, and taken rank with the initiated, it becomes our business to interpret nature to those below us; and as we should then consider it still more discreditable to be at any time found wanting, the motive to practice imposition is strengthened. But it is as physicians and surgeons, when we expect to receive patronage, less in the proportion of our true knowledge, than of our plausibility, that the temptation to deceive, both ourselves and others, acquires an irresistible and frightful energy. As the naturalists find it necessary, to supply from analogy, the lost parts of a Mammoth skeleton, before it can

satisfy vulgar curiosity, so physicians feel the importance of presenting an aspect of perfect knowledge, when they would acquire public confidence. This imposture, not often detected, is still more seldom frowned upon, by the hoodwinked community, whose unreasonable demands have invited it; and, as impunity promotes the repetition of crime, one imposition follows another, till the love of truth falls gradually into ruins; and the heart once honest and open, becomes at last polluted with the principles of a criminal selfishness. The guileless lineaments of unsophisticated nature, are now exchanged for the studied imitations of art; and the question no longer is, what does truth require, but what will best administer to the insatiable cravings of self-interest, and where lie the moral limits which cannot be overstepped, without injury of reputation?—Mark the physician who has thus degenerated, and you will no longer perceive in him any sacred veneration for professional truth. If he purchase books, it is rather to *appear* learned; than to become so; and when he reads, it is more to extend his notoriety than his knowledge. He may not purposely avoid the truth; but he no more trims his midnight lamp, and diligently compares the recorded observations of others, with his own, made through the day; he relaxes in his efforts, to note down the facts which fall under his observation: or, what is more criminal, suppresses or perverts them, to suit his prejudices, or display his conduct and character in a favorable aspect. In his practice, he often omits the performance of duties, because they may be servile and troublesome; when from such omission, the truth could not be ascertained, nor his patient treated with success. In cases of extreme danger, he will neglect the investigations that are indispensable to a true knowledge of the case, and occupy himself on the means of satisfying those interested in the result, that he has done all that could be done, if not all that was required. He magnifies the danger through which those have passed, who appeared to be seriously ill when they were not; and expects thus to balance the account of profit and loss, when

a patient dies whom he ought to have saved. In the application of remedies, he yields to prejudices and apprehensions, which it is his duty to encounter, and, if possible, overcome; and neglects the use of means which are necessary to the safety of his patient, lest censure should follow their unsuccessful employment. When required to confer with another physician, he looks more to the preservation or extension of his fame, than the life of the patient; now doubly jeopardized, by the complaint and the consultation. If the attending physician, he makes false or imperfect statements—adding or subtracting, in his narrative of the past treatment, such items, as he thinks necessary to a favorable estimate of his sagacity;—if the consulting physician, to acquire a name for liberality, he sanctions with criminal courtesy whatever has been done, and recommends its continuance; or rejecting the whole, aims, like a cannibal, to fatten his popularity on the despoiled reputation of an able, but artless, associate. Finally, should he at any time attempt to lay before the profession the results of his experience, he writes as certain artists paint, merely for effect;—looking to an increase of his reputation, more than the dissemination of truth. Or, captivated by the prospect of temporary applause, rather than the desire for permanent fame, his histories are not made correct transcripts, even of his experience; but resemble caricatures, which strike the vulgar by the disproportion of their parts, or the unnatural depth of their light and shade. Were they equally harmless, it would be happy for mankind, but, unfortunately, they are poison cast into the fountain, and before its waters can purify themselves, hundreds may drink and die.

A DEFECTIVE AMBITION, IS THE LAST SOURCE OF ERROR TO WHICH I SHALL REFER.

The want of ambition, contributes signally to retard the progress of medical science. A majority of those who belong to the profession, are destitute of the excitement

which it imparts; and, consequently, deficient in those exertions by which only the profession can be advanced. In the selection of boys for the study of medicine, no reference is, in general, made, either to their talents or aspirations; and most of them grow up and go down to the grave, incumulous of distinction, and blind to every recompense, which cannot be recorded on their ledgers. The circumstances of our country, have a large share in the production of mere routine practitioners. In the midst of the general diffusion of political and religious knowledge, literature and science are but little cultivated or respected, except in the larger towns and about our seminaries of learning; and hence the acquirements of medical gentlemen are not always properly appreciated. Emulation, moreover, requires contiguity and contact; and is most energetic, where the pressure of rivalry is greatest. But in the United States, from the sparseness of population, and the small size of most of the towns and villages, physicians are too detached and scattered, to excite each others ambition, or to concur in operations for the improvement of the profession. Thus, many whose ambition, under a different state of things, might have prompted them to great and successful efforts, while away their whole lives, without having the dormant fires of their ambition once kindled into flame. In the cultivation and practice of a science which is imperfect and speculative, no principle of action is so powerful as ambition. The love of money will animate physicians in the acquisition of business, but not to the discovery of scientific truth. The pursuit of the latter, often, indeed, interferes materially with an accumulation of the former—which, with a few exceptions, has flown into the hands of those who have neglected the cultivation of the profession. The love of knowledge is a nobler affection, but cannot be relied upon to promote the discovery of truth, or extend the boundaries of our science. Physicians of this class, delight in truth and detest error; but having more of contemplation than action, spend their lives in *acquiring* knowledge, and neglect its appropriation.

They are misers who horde *fine* gold only; but depend exclusively, on an increase of their stores, for the pleasure which should flow more copiously from expenditure than accumulation. They industriously gather what they are, in general, too indolent to apply, or even bequeath; living as it were, for themselves only; and manifesting a character of refined and unoffending selfishness, which we can neither blame or applaud. The body, the labors and the fame of such an one perish in the same grave; and the history of his virtues; his taste and genius—his attainments, purified in the furnace of a noble understanding—his unextinguishable love of truth—and his day dreams of patriotism—are written but on the narrow tablet of the grave, and read by those only, who visit the mansions of the dead. I would not envy such an one, the gratification which he experiences, in his inemulous retirement from the theatre of ambition and usefulness; nor can I agree that the love of posthumous reputation, should be classed among the vanities of human life. The lover of truth, who is content with its acquisition, has less enjoyment, than he who superadds useful application to accurate attainment; and of all the original principles of our nature, the desire of honorable fame, is not only most beneficial to the world, but one of the most ennobling to the soul which it animates.

We must not confound *this* ambition, either with pride or vanity. The former preserves us from little actions, but never impells us to great—the latter contents itself with vulgar admiration, and incites us to those performances, only which bring immediate applause. Pride looks to society for no reward, either present or prospective: vanity undertakes nothing on trust—is not willing to rely on posterity for payment—exacts daily returns from the surrounding multitude, and slakes its thirst with draughts of flattery and adulation. Ambition, in itself, has no element either of good or bad. It works as a mere animating principle; and rouses us to deeds of desperation and death, or schemes of beneficence and life, according to the moral sense and the objects of each indivi-

dual. When it subjugates the heart, and arrays itself in the armor of misanthropy, it delights in nothing, but new advances over a terrified and prostrate world; but subordinate to the heart, it becomes the bright sun of society, and cheers and vivifies whatever its beams may fall upon. Such is the ambition, which should glow in the bosom of every physician; he would then see no mountain too lofty to be scaled, nor so overhung with murky vapours, that he could not discern the clear and beautiful sky that stretches out beyond its summits. Warmed by love for mankind, enamoured of his profession and animated by the hope of rising higher, than all who had trodden its rugged steeps before him, he would move on his upward march, with a never tiring step. Not too proud to employ every honorable means, however, humble; nor so vain as to loiter, by the way to catch the syren sounds of popular applause, he would see and think and dream of nothing, but the grandeur which surrounds the objects that allured him on. He would suppose all the time, that these being attained, he might sit down in the midst of them, and give himself up to enjoyment. But the man of true ambition, never stops to revel in the camp of victory. He delights in action and anticipation, and looks with rapture from his new elevation, at the distant and loftier pinnacles, which till then were hidden from his view. Finally the physician of honorable ambition, has no quiet sleep, while any are before him. He would not keep them back, but advance himself—he does not regard them with envy, but emulation. He even extends to them his *respect*, but this requires, no ordinary effort, and the magnanimity of his character, is seen in the candor, with which he can bring himself to view their merits, and identify their fame with the glory of his profession.

I shall conclude this declamation on some of the causes which oppose the progress of medical science, in the United States, with a passing remark on two or three points that merit animadversion.

1. It deserves to be considered, how far the union of the practice of Physic, Surgery and Obstetricks, in the same individual, has contributed, in the United States, to affect the progress of the profession.

It is a plausible opinion, that these branches should be united, in the same individual, as they are manifestly connected in theory. Nearly the same principles of Physiology and Pathology are common to the whole, though they differ in Nosology and Therapeuticks. No one can be prepared to practice either, without a full elementary acquaintance with the whole. But when we come to the business details of the profession, who is capable of so executing them—still cultivating its general principles—as to become great in all? Certainly none, but men of genius and intense industry. All others sink into mere routinism. From an attention, too incessant and diversified, to the details, they neglect the philosophy of the profession; until, at last, they can give but few reasons for their many prescriptions. It will not be denied, that such practitioners may do a great deal of good, in the midst of some mischief; but they are not the men, who advance the science. They are mere operatives, and work on the plans of others. They are unacquainted with the *defecti et desiderata* of the profession. They have not time, nor, after a few years, ability to study their cases, in connexion with its principles; but rely exclusively on their own experience, and the recipes of their brethren. They never originate schemes of reform or improvement, project original experiments, or develope new elements of knowledge. All this results from too much variety in their practical operations; for which the appropriate remedy, would be concentration upon some part of the profession. To have depth, the diffused waters must be gathered into a narrower channel. The man, possessing even ordinary talents, who devotes himself to Surgery, Medicine, or Obstetrics, instead of the whole, may carry into his practical operations, an accurate and comprehensive knowledge of principles; thus

making his experience available, to the rectification of the errors which vitiate them—augmenting their limits, and defining their uncertain land marks.

On the whole, I am disposed to conclude, that the want of this concentration, is a cause that has retarded, and continues to retard, the progress of the American profession, in scientific improvement; though unquestionably, its members are eminently practical, and generally efficient in their efforts.

2. Among physicians, surgeons, and obstetricians, there are two classes, who run into opposite extremes. They might be termed the philosophical, and practical or empirical. The former delight in general principles, and with difficulty concentrate their attention upon the practical maxims of the profession: the latter, find such principles above their reach, or deny their correctness, and occupy themselves, exclusively, on the receipts and dogmas of practice. Each sect is right as far as it goes; but each is imperfect. The philosophy of the science is found in its general principles; but we cannot practice correctly without rules, and principles are but the theorems by which rules are formed. We must understand the former to be medical philosophers, and act by latter to be clinical practitioners. With principles, only, we are diffuse and ineffective—with rules alone, either timid to a fault and *suffer* our patient to die, or rash and reckless, and destroy many who might have lived, had death fought single handed against them.

3. The number who venture on the practice of physic, is indefinitely greater, than those who profess to practise surgery in its higher branches. This arises, in part, from the greater number of clinical than surgical cases; but a very different cause, likewise contributes to the disparity. The operations of surgery, expose the ignorance of the practitioner; and, when unskilfully performed, injure his reputation and subject him to the penalties of the law. But in the practice of physic, the detection of errors, by the people, is generally impracticable. Hence many will confess their ignorance

of the former, while all are ready to profess a competent knowledge of the latter; although, in reality, physic requires in the aggregate, more profound and varied attainments than surgery. How important it is, then, that the physician should be a conscientious man, who has other motives for investigating the principles of the profession, than the fear of having his ignorance detected and exposed! He should shrink with horror from the idea of prescribing on false premises, or by loose and unphilosophical analogies. He should recollect, that human life is at stake; that a human being, in extremity, is confided to his skill and honor; and that an ignorant or presumptuous stroke of his pen, may translate that confiding fellow creature—perhaps his bosom friend—from time to eternity, to confront him with damning testimony on the day of final retribution. Although such practice is not legally felonious, it deserves unqualified denunciation; for in a moral view, where lies the line of distinction, between criminal prescriptions, and those which prove fatal, through the criminal ignorance of their authors? I say *criminal* ignorance, for although, in the abstract, there is no criminality, in being unacquainted with the truth, yet, in the practice of medicine, to be ignorant of facts and principles, which lie within the grasp of common minds under common opportunities, and still to undertake that, which they, only, who are acquainted with those facts can accomplish, is to forget the divine maxim of doing to others as we would be done unto; and, literally to wage war upon human life; not in malice preence towards any individual, but with the senseless and fatal impartiality of an epidemic disease.

ESSAY VI.

LEGISLATIVE ENACTMENTS.

No one can dispute the propriety of placing Medical schools under the supervision of the law ; and rendering them amenable to the sovereign power of the state. It will avail but little, however, that they are thus authorized, if that power does not govern them with liberality, vigilance, and wisdom. They should be regarded, not as private but public incorporations ; designed for the benefit of society, rather than of the individuals who compose their faculties. A medical professorship, is indeed a public office ; and should be filled or made vacant from no other motive, than the general good. No claims for admission, but those founded on talents and general fitness, should ever be allowed ; and the discovery of a failure in these, and this only, should be regarded as a justifiable ground of dismissal. The principle of rotation in office, should never operate to effect the removal of a competent professor.

When a State is about to institute a medical college, and subsequently, it should have a special regard to several points :

1. The location. The proper site for such a school, is a populous city. Uncommon talents in the professors, may secure, for a time, the prosperity of a school in *any* situa-

tion; but, misplaced, it is liable, like a plant in barren soil, to perish or decay, when committed to unskilful or indolent keeping.

2. The endowment. Some kind of revenue, or an actual appropriation of adequate amount, should always accompany the charter; not as a *bonus* to professors, but to afford them the means of research and illustration.

3. A hospital. This should be as ample as possible, and so planned and regulated, as to be made a clinical school, and a school of morbid anatomy. The rights and duties of the professors and pupils, should be clearly specified; and both made so comprehensive, as to secure for the sick, the best possible attendance; while they, in turn, should repay society and the profession, for the charity they receive, by the benefits which their cases can be made to confer on the pupils.

4. The supplies for the anatomical hall. Exhumation should be prohibited, under the severest penalties, rigorously enforced; but all who are found dead in the streets or fields, or who die in hospitals, poor houses, houses of correction, jails and penitentiaries, and are not claimed by friends, and taken away, to be interred at their own expense, should be delivered to the professors of the college. This would abolish the practice of disinterment, which, otherwise, *must* and *will* continue, until other sources of supply are opened. The opposing demands and denunciations of society, on this subject, indicate that the present is, indeed, but the age of transition from a lower to a higher grade of civilization. Society, in former times, did not require anatomical knowledge, in those to whom it entrusted the limbs and lives of its members: at a future period, it will afford to its medical guardians, the means of acquiring the knowledge it demands.

5. The Trustees. These should be chosen for their qualifications. They should not only be men of talents, intelligence and literature; but, from taste, inclined to devote themselves to a faithful execution of their stewardship. Above all, they should be men of honor and impartiality—

tolerating in their hearts neither prejudice nor prepossession—and conducting the institution with a sole view to the public good. A part of them should be physicians, but not of the city in which the college is established, lest collisions in professional business, between them and the professors, should disturb the harmony of the institution.

6. The accountability of the trustees to those from whom they derive their authority. This should be made as rigorous as possible. The trust being strictly eleemosynary, should be confided to no board of trustees any longer, than they are found to render it beneficial to those for whom it was granted. Annual detailed reports should be required from the Board, accompanied by reports from the Faculty, and these should be submitted to the scrutiny of select and competent committees, with instructions to investigate closely, and report impartially, on the state of the institution; all which should finally be published, together with the new acts of fostering or corrective legislation, which they may have suggested. By these means, abuses would be detected, and a powerful motive infused into the trustees, to act with the skill, moderation, and justice, which befit those who should be accountable to public opinion, as well as the laws.

Thus founded and governed Medical Schools, are a blessing to mankind, and reflect the highest honor on the governments from which they emanate.

A state which establishes and conducts a medical institution on these principles, will have little need, of what are styled laws to regulate the practice of physic. It will regulate and deplete itself. If the fountain of supply be pure, the stream will seldom be tainted, and its waters will require but little clarification. Should they burst forth in a turbid condition, the work of purification will be found both expensive and difficult. More than half the states of the Union, have laws to regulate the practice of medicine; but I am by no means convinced, that they have ever done any real good to the profession or society. New-York and Ohio have such laws: Virginia and Kentucky none. It remains to be

shown whether the profession in the two former, is more respectable than in the latter. I am disposed to believe it is not. Laws which admit to the practice of medicine, those who have not graduated, give many young men a passport to the confidence of the public, who do not deserve that confidence; and could not easily have acquired it without a license. Those, moreover, who are rejected by boards of censors are, in most cases, sustained by society on that very account; and the profession is charged with sinister views. The rejection of a candidate for a degree, by the Faculty of a college, brings him into contempt; but the refusal to grant a license, secures for the applicant a portion of public sympathy and patronage. The reason is not obscure. When *all* the physicians of a state are incorporated, and boards of examiners are appointed by ballot, a great number, inevitably, belong to the corporation, and too often to the examining tribunals, whom the people do not regard as qualified; and they are, therefore, not inclined to look quietly on the rejection of a young man, not inferior, perhaps, to those who have put a veto on his aspirations. It is difficult, indeed, for these bodies to establish an authority, that society or even the profession, will recognize; and equally difficult, for them to maintain internal harmony, or adhere to a standard of uniformity in their decisions. The office of censor is essentially one of rotation, and, generally, becomes an object of ambition. Its acquisition is often attended with circumstances of management, that are discreditable to the profession; and its administration, still oftener, perhaps, so conducted, as to offend the feelings of those, who have an immediate interest, in the admission or rejection of such candidates, as are their own pupils. Thus feuds are generated, and a whole district is degraded, by reciprocal charges of malfeasance in office; which, whether true or false, disturb the harmony of a profession, whose very efforts to lie still, keep it forever agitated. At last, what is a license but a certificate of inferiority? A licentiate may be a good physician, and become a great man, but still there is an original technical

difference between him and a graduate, which every body recognizes; and, as far as testimonials are concerned, he is one, who has not made the attainments, which entitle him to a doctorate. Too many, however, who are thus admitted, and, legally, become members of the profession, rely on the hope, that the mode of their introduction, will be at length forgotten; and never afterwards, seek to qualify themselves for those university honors, to which otherwise they would have aspired.

On the whole, I am convinced, that a state should acknowledge none as members of the profession, who have not graduated; unless it could not have a medical school, and was so remote and insulated, as not to receive an adequate supply of educated physicians. To establish a school, and then to admit into the profession, by legal enactments, those who have not availed themselves of its advantages, is inconsistent, and playing at cross purposes.

At the same time, I would not enact penalties against those who choose to practice without a diploma; for such laws are never carried into effect, and, especially, are opposed by the people; who often sustain a man, when thus persecuted, as they call it, who would, otherwise, have made but little progress in society. For all practical purposes, it would be sufficient, not to allow him to appear in courts of justice, for the collection of his professional earnings, on the sole ground, that he could not show a diploma from an authorized university.

The profession of the Apothecary, should receive attention from our legislatures. The practice of keeping and putting up their own medicines, is going rapidly out of fashion, among the physicians of all the cities and larger towns of the Union. In consequence of this, the compounding of prescriptions, is passing from students of medicine, to the clerks and shop keepers of druggists, most of whom, as well as their operatives, are mere merchants, almost entirely ignorant of the branches of science connected with the busi-

ness which they follow; and equally destitute of classical learning.

They who put up physicians' prescriptions, should be acquainted with Botany, Materia Medica, Chemistry, and Pharmacy, and possess such a knowledge of the Latin language, as would enable them to decipher, with correctness, what is sent to them. If ignorant in these respects, they are, perpetually, liable to make mistakes, which may defeat the objects of the physician, and even destroy the life of the patient.

The law should, indeed, not only require apothecaries, who undertake to compound the recipes of the profession, to be qualified, for that nice and important duty; but, also, to file and preserve the manuscripts sent to them, that a proper responsibility may be established, and the blame of errors, by which the sick, may be seriously injured, fixed on those who commit them. Without this skill and precaution, the lives of patients are in perpetual jeopardy.

I shall close, with a reference to the law of patents. The practice of granting patents for nostrums and panaceas, is discreditable to the age. It originated in a period, when medicine was far from its present state of improvement; and the science of legislation, correspondingly, imperfect. The day has arrived, when juster views should prevail. A chemist may, with propriety, receive a patent for the discovery or invention of a new compound, but not for its administration to the sick. He might, for example, prepare sulphate of morphia, from a cheaper article than opium, and by increasing the quantity, diminish the price to the consumers, and should be rewarded by a patent; but if he asked for an exclusive right, to administer some preparation of that medicine in certain diseases, it should not be given; because, such an administration could not benefit the public, the ultimate object of every exclusive grant. It will be acknowledged by the profession, that no article of the Materia Medica is beneficial, or even safe, in every case of the disease,

for which it is generally used. To be successful it must be adapted to the actual condition of the patients system, and this can only be known to a competent observer. A patent remedy, is therefore, an absurdity, and too often a slow poison.

It may be said, however, that empiricism would palm its nostrums on the credulous, if they were not patented. This is true; but it is equally true, that patents are most authentic passports to the confidence of the people; which is well understood by those who prepare quack medicines, and constitutes the chief motive for applying to the patent office; although the alledged reason may be, to prevent counterfeits. Hence the law promotes imposition on the ignorant, whom, in fact, it ought to protect. It is, therefore, prejudicial to society, and should be repealed. To this end, our medical colleges and societies, ought to unite in memorializing the general government. A joint and earnest effort, could scarcely fail; and whether successful or unsuccessful would reflect credit on the American Profession.

ESSAY VII.

PROFESSIONAL QUARRELS.

The members of every vocation, have their peculiar relations, from the proper maintenance of which, results much of their happiness, as well as the dignity and influence, of the body which they compose. The causes which disturb the harmony of those, who, in the same place, are engaged in a common pursuit, must, of course, vary according to the nature of the pursuit, and are far more operative in some callings than others.

The disputes and quarrels of the medical profession, have been thought disproportionately great; but their number, I am inclined to think, has been overrated. The quarrels of the members of other professions (except the clerical,) are less connected with the domestic and social relations, than those of medical men, and therefore pass by comparatively unnoticed.

But if the collisions of the profession, are more frequent and bitter, than those of other *casts* of society, it may be safely affirmed, that the causes which originate them, are more numerous. This fact is, however, not always borne in mind, or even perceived; and, hence an undeserved odium, has been sometimes thrown upon physicians, by shallow and cynical observers. As far as the dread of sarcasm, may

tend to counteract the causes of discord, which are inherent to the profession, it does good; but the motives of those who utter it, do not always correct themselves with this amelioration. Physicians, of course, are, *naturally*, as pacific and quiet, as any other equal number of men in society; since they were apprenticed to the medical profession, without any regard to their temper and social propensities. I propose, briefly to lay open some of the causes, which generate differences and discord in the profession, as I have either observed or felt their operation.

1. Rivalship is a predisposing cause, (and sometimes the only one,) of much collision among physicians and surgeons. We observe the operation of this principle, in every department of society. It constitutes the main spring of enterprise, in all branches of industry, in commerce, in the army and navy, at the bar, and even shows itself in the pulpit. But no where, are its influences so likely to disturb the harmony of the rivals, as in medicine; because almost every where else, it is restrained by appropriate checks. The parties, for example, may have but little personal intercourse with each other, may move in distinct orbits, derive advantage from associated efforts, be overruled by a superior power, or the people may be competent judges of the articles they produce, or the services they render. But little of all of which, is true of physicians.

2. Envy, a passion which prevails in all ranks of society, is not less operative in the medical profession, than elsewhere; and originates not a few of the personal disputes which agitate it. In many cases that might be cited, this feeling may be energetic, without breeding actual collisions. The judgment of the community may be so correct and decisive, as to repress its workings; or the unequal rivals, may be too remote for personal controversy; or the distinction to which they aspire, like that of poets and philosophers, may not connect itself with practical operations, or increase of fortune. But the profession has not the advantage of any of this countervailing influences; for its rival

members are contiguous, they labour in a common field, and acquire wealth in proportion to their popularity. Disparity of success, when there was original equality of pretension, begets arrogance in one, and suspicion, dislike and irritation in the other; while both may, in fact, be honorable, and, in reference to all the world beside, peaceable men. Envy is emulation in disease, and where the causes of this state are most active, the morbid effects will of course be most conspicuous.

3. Differences of opinion, on the principles of the profession, lead to many of the personal antipathies and controversies which disturb the profession; and, to a greater or less extent, involve the feelings of society. This results, from the ultimate practical tendency, of every professional speculation. If the theories in medicine, did not influence its practice, and, by that means, the business of its practitioners, conflicting opinions as to the seats, causes and treatment of diseases, would no more excite personal altercation, than disputes on the materiality of light, or the Eleusinian mysteries. As every medical theory, is to stand or fall, by the test of experiment, the opposing partisans, naturally magnify their own, and depreciate each others success; which of course leads to reciprocal charges of misrepresentation; and the conflict of opinion, cannot be long maintained, without engendering personal animosities. From this cause, the quiet, even of great cities, has often been and will, hereafter, be disturbed, until the science of medicine has acquired fixed principles, in some remote future era.

4. The establishment of medical schools is a prolific source of discord in the profession. In this there is nothing remarkable. When a faculty is to be made up, there are in general many candidates, and of course many disappointed men; who harbour a secret feeling of dislike, towards the successful aspirants. Moreover, there are at the present time, nearly a hundred medical professors in the United States, and at least a thousand physicians, who in their own and the opinion of their friends, are as well, or better qualified, to fill

professorial chairs, as the existing incumbents. These two great classes, of course, stand in a relation to each other, which predisposes them to hostility. Such is the law of human nature; and we see it as strikingly exemplified, in political as in medical pursuits. If the professors, withdrew from practice, on being appointed, they would be viewed with very different feelings, by their brethren. But a professorship, is a passport to business; and the increase that follows an appointment, is of course at the expense of those who surround the school; an effect, under which, although pride or prudence may keep them quiet, they cannot be expected to cherish the most friendly or pacific sentiments.

5. The people themselves occasion not a few of the jealousies and strifes of medical men. Almost every family has its physician, who is generally, pronounced to be *more* skilful, or courteous, or attentive, than the man in whom its neighbour confides. This comparative praise, seldom fails to reach the ear, of him, who is thus depreciated; and, by a natural association of ideas, he connects the idol of the family with the idolators; and comes to dislike the person, whom he thinks unjustly elevated at his expense. But still worse, the enthusiast admirers of a particular physician, will often collect and circulate petty scandal, and sometimes actual falsehoods, on a rival of their favourite; to which he will give the countenance which results from silence, when he should; in fact, be the first to step forth in the defence of him, who is thus assailed. Professional fame, is the capital of a physician, and he must not suffer it to be purloined, even should its defence involve him in quarrels.

6. As neighboring physicians practice, indiscriminately, throughout the same community, many occasions for misunderstanding or actual hostility, will necessarily arise. They are in perpetual competition, and every thing which maintains the contest is *personal*; its immediate object is public favour, its remote, the acquisition of property. What one gives, is taken from another; and although the gainer may be honorable, which is not always the case, the loser is not, on

that account, always reconciled to the loss. He looks with some degree of invidiousness, on the man who has supplanted him; and is prone to believe, that the change has been brought about by unfair means. This is, indeed, sometimes the case, though not so often, perhaps, as has been supposed; for many persons are capricious, and change from physician to physician, through mere love of novelty.

7. Undercharging, is a source of personal difficulty among physicians. Underselling in trade, is far from producing the same effect; because one involves services and immaterial capital—the other commodities and material capital. When a merchant or manufacturer, sells goods for less than cost, he sustains an actual injury of capital, which, persevered in, may ruin him, and here is a check; or, his competitors may, for a time, sell still lower, and thus bring him to terms; after which they may all proceed together, on sound principles. But when a physician charges less than the customary fees of the place in which he lives, he does not exhaust his capital; and, generally, augments the demand for his services, till he more than compensates the reduction of price. In this proceeding, he cannot be met by his more reputable brethren; because the public sentiment of the profession, does not tolerate such debasing competition; nor, if they once reduced their fees, could they afterwards, without difficulty, raise them to the proper standard. Hence it is not strange, that this sinister mode of acquiring popularity, should be frowned upon by those, to whom nature has denied the disposition to adopt it, and that personal difference, should, therefore, be the consequences.

8. Quackery of other kinds, not unfrequently disturbs the repose of the profession. Its members are so numerous, that among them there must always be some, who are willing to recommend themselves, by the arts of *charlatanerie*; the influence of which on many persons, is irresistible. It is the duty of the honorable members of the profession, to expose and condemn such impostures. But this is never done, without exciting strife and turmoil; in which the people *con amore*

seldom fail to participate on the side of those who have imposed upon them.

9. When a physician is sick or absent, another is of necessity called in by his patients, if they need advice. This often leads to heart burnings, and sometimes to open animosities. He who is summoned to this vicarious function, may aim at retaining himself permanently in the place of the other, and practice extraordinary assiduities to effect his object. If he succeed, the means of his success will generally be found out, by him who is superseded; and the effect of such a discovery is obvious. But even when the new preference, is not the offspring of unfair dealing on the part of the person preferred, the other is apt to feel it unpleasantly; and to manifest his feelings by reserve or coolness of deportment. If this be unmerited, it will be resented; and both parties, at length, come to a hostile attitude.

10. Consultations are copious sources of personal difficulty in the profession. I have already alluded to this subject, in speaking of a defective love of truth. Great reliance is, generally, placed by the patient, or his friends, on the consulting physician, because the other is presumed to have exhausted his skill. Should the patient die, it is often supposed, that he might have lived, if the consultation had been held earlier. Thus the consulting physician, has nothing to lose, and much to gain. I have more than once known the recovery of the patient ascribed to his interposition; when, in reality, the gentleman called in, proposed nothing, but concurred, in the new suggestions of the attending physician, and from this have arisen animosities. The consulting physician, moreover, is often questioned, apart from the other, on the past treatment and the probable issue of the case; when, if deficient in honor, he is apt to say, or look or insinuate, such things, as he knows will operate to the injury of his colleague; who of course resents the insidious attack on his character should he discover it. Other difficulties still, are connected with consultations. The principles of the treatment must be discussed; but this may end in controversy instead of concert. There is, then, no overru-

ling power, as, in the other learned professions. Divines can appeal to the 'law and the testimony,' and members of the Bar are silenced into acquiescence by the authority, if not the wisdom, of the judge; but physicians are without the benefit of such a tribunal, to reconcile their jarring opinions, and are liable to irritate each other into perseverance and obstinacy.

I have, thus, enumerated some of the causes which generate medical quarrels. It will be admitted, from the specimens given, that the number is great; and that it is not without reasons connected with the offices and economy of the profession, that its members are so often embroiled. This altercation is deprecated and condemned by society; but its effects, upon the whole, are beneficial, because most of it originates in the resistance of the good, against the arts and encroachments of the bad; the most efficient means of maintaining the purity of the profession. After all that I have experienced, observed, and thought, of the differences among medical men, I am unable to perceive, in what respect they seriously degrade the profession, or injure society. If the principles and rules of practice in medicine and surgery, were fixed, and there was no room for diversity of method in their application; and, if the members of the profession, were all men of honor, and gentlemen in their deportment, there would be little occasion for disputes, and much discredit in their occurrence. But until these causes of controversy are obviated, its consequences are preferable to the effects, that would follow its forcible suppression. Where there is no impassioned discussion of medical opinions, there will be no active spirit of medical inquiry; and, if the *honorable* members of the profession, should submit quietly to the tricks of the *dishonorable*, they would soon be involved in a common disgrace. It is not the quarrels of the profession, but the causes which originate them, that throw discredit upon it. Society is not disgraced, when the vigilance of its police, enables it to apprehend and punish a great number of culprits; although a deeper agitation may attend

such an administration of justice, than one which would suffer bad men to go at large, and continue their works of wickedness.

It is said, that the quarrels of medical men interfere with their consultations, and often deprive individuals in society, of the advantage of uniting in the treatment of their diseases, those in whom they place the greatest confidence. This, it is true, may sometimes happen; but the number of such cases, has, I think, been estimated too high; and, in general, it is possible, to arrive at the desired result, by other selections.

It is a current opinion, that physicians, when required, should consult together, whatever may be their private animosities, and the practice of the members of the Bar is cited in support of the position. But the cases are not analagous; for the circumstances in which a suit at law is prosecuted, are entirely different from those under which the treatment of a clinical case is conducted. Judicial proceedings are regulated by fixed precepts; the course to be pursued is dictated in the books of precedents and statutes; the doings of the party are in open court; all the advocates are sworn to be true to their common client, who knows the amount which they, respectively, perform; each may occupy himself on a particular branch of the subject; and every thing is controuled by the Bench. On the other hand, in clinical consultations, there is no impartial, upright and intelligent, *presiding* power; the deliberations are private and the greatest possible latitude exists, for the reciprocal, insidious indulgence of personal feeling; those who know how much the judgements of men are liable to be biased by these circumstances, will have least confidence in the results, of such consultations. To believe, that two or more physicians, who hate and despise each other, will, I should rather say, can, act towards, and view each others opinions, at the bed side of the sick, in that spirit of candour, which is necessary to a proper investigation of the means of cure, indicates but a superficial view of the human mind. I should be unwilling, either as physician or patient, to

belong to such a consultation. Animosities, it is true, are surrendered up, and a joint effort heartily made, when our *own* lives are menaced by a common danger; but I have yet to learn, that the welfare of others, can effect the same triumph of the will and judgment, over the passions. Such of the parties, as are conscientious, will, of course, desire to act candidly, when forced into these gladiatorial circles; but habitual and inveterate hostility of feeling, is not likely to be reduced to instant subjugation, either by the mandates of wealth, or the claims of suffering humanity. All this may be wrong, but it is real; and as true of other men as physicians. They who would surround themselves, in sickness, with medical gentlemen, who are unfriendly to each other, should labor, while in health, to reconcile them; instead of becoming partisans, as too often happens. On the whole, it is not proper for physicians to be enemies to each other; but being such, it is still more improper for them to undertake, conjointly, that which personal enmity can scarcely fail to render unavailing, if not prejudicial to human life.

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